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EDGE

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AM3

Sega's premiere designers push **Saturn** to the limit

Mind Games

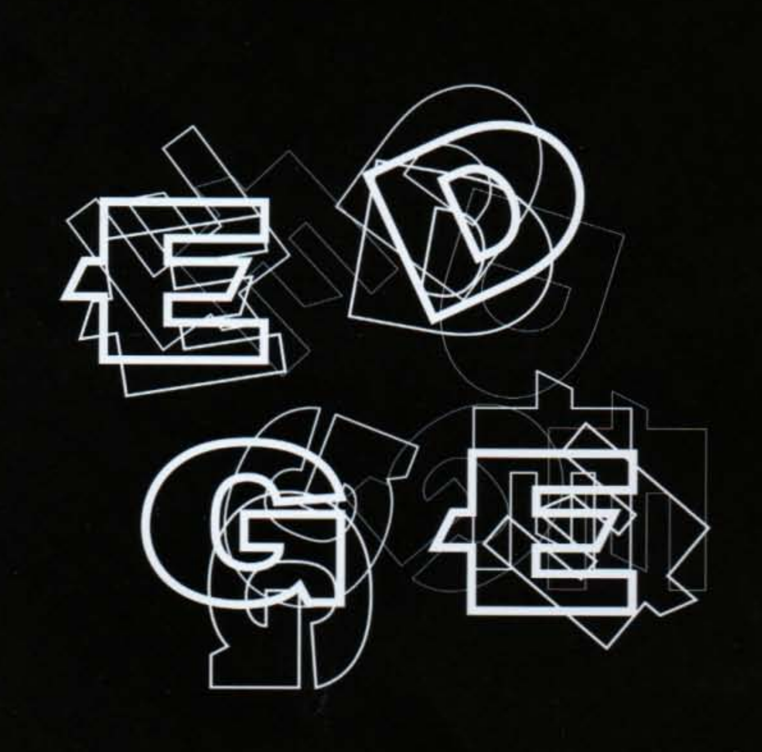
The evolution of Artificial Intelligence

Issue **twenty-seven**

27



So far, on a straight-forward performance basis, Sega's Saturn has been eclipsed by the PlayStation's ability to generate convincing 3D. But has the Saturn yet to reveal its true colours? This month Edge looks at AM3's stunning conversion of its *Sega Rally* coin-op, as well as taking an early look at its two-wheeled successor, *Manx T.T.*


EDGE



Mind games: creating the videogame intelligentsia

The very nature of videogames means a program has to possess some degree of intelligence – even if it's merely guiding homing missiles in a shoot 'em up.

Many of the first 8bit, text-only, adventures possessed intelligence routines far in advance of many current games. Graphics were non-existent so a sophisticated and immersive game engine was instead needed. Since then, artificial intelligence in games has largely been directed at appeasing the megalomaniac intent on building civilisations and impersonating God. So far, only the PC gamesplayer has become the zealot of such rewarding play.

What is really exciting is how artificial intelligence will become manifested in software designed for mainstream videogame audiences. Capcom's *Biohazard* has all the trappings of a classic action game, but the technology at its core has the capacity to depict convincing human behaviour. Such games harbour a huge potential for ingame characters to communicate, express emotion, and above all, react to situations intelligently.

Current endeavours to implement AI seem to shy away from this seductive challenge. The interactive movie should rely on the complex interaction of characters in realtime, not the repetitive playing of video scenes. If the videogame is to evolve into a truly gainful and rewarding art form, then perfecting the intelligence of a game environment should become as much an obsession for developers as the interminable search for graphic realism.

The **future** is almost here...

inside EDGE





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Cover image: *Sega Rally* courtesy of Sega/AM3.





insideview

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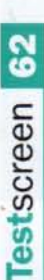
Namco's ***Time Crisis*** (left), the **1995 Amusement Machine Show** (right)

21 **Pre**screen





Soul Edge (left) and ***Marathon 2***

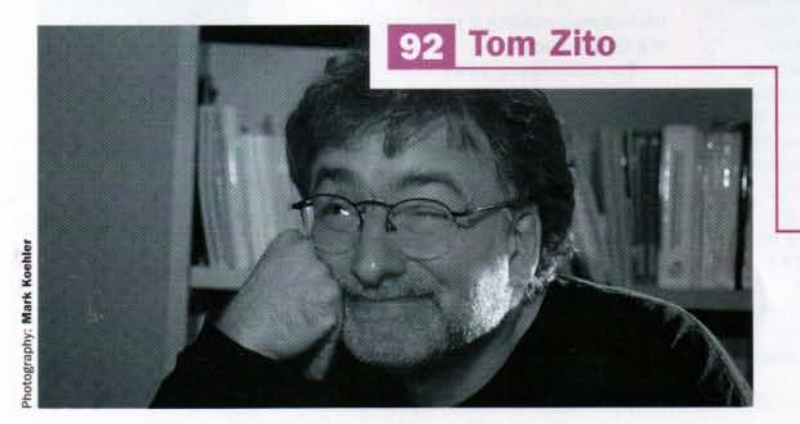


Wing Arms (left) and ***Boxer's Road***





92 Tom Zito



Photography: **Mark Koehler**

PlayStation: Sony's mammoth hardware launch takes the industry by storm and silences the critics/**pages 6-8** • **Nintendo 64,** the new name for the top-secret **Ultra 64**, takes a step closer to reality and could appear in Japanese homes by the new year/**page 9** • Videogames giants, and rivals, **Sega** and **Namco** go head to head at the **JAMMA** show/**pages 10-14**



The latest **news** from the world of interactive entertainment

PlayStation roll-out hailed a success

All goes well for Sony during the industry's most anticipated launch

For its rivals, it has probably seemed like an eternity, but for Sony, the PlayStation's European launch day can't have come a moment too soon. Following the machine's release in Japan almost a year ago, and its September 9th roll-out in the States, Sony Computer Entertainment finally launched the PlayStation across Europe on September 29th. Both occasions met with commendable success, and US sales took even SCEA by surprise. During its first weekend in US stores, the PlayStation sold around 100,000 units, allegedly outstripping the Saturn's total US installed base accrued since May this year and grossing $45 million.

In Europe, a similar situation resulted with a claimed total sales of 100,000 units. 20,000 of those were sold through UK outlets in the first weekend alone with an estimated 10-20,000 further sales notched up since then. Such impressive numbers are indicative of the demand that has built up for Sony's machine over the passing year. In many stores across the UK, queues appeared early on Friday 29th September with most people buying the machine plus one or two games. And perhaps in light of the relative crudity of Namco's PAL conversion of *Ridge Racer* (see page 8), *Wipeout* has proved to be the strongest selling game on the machine, immediately making it to number two in the Gallup charts.

For such strong sales to be amassed, the UK distribution of Sony's machine was as encompassing as could be. While high street oldtimers Dixons shunned the PlayStation from all but its 50 top grossing stores, national chains such as Toys 'R' Us, HMV (140 units sold on day one), Virgin, Game and Future Zone combined with retail spread of over 350 independent shops, managed to make the PlayStation sell faster than either the Mega Drive, SNES or Game →



The Liverpool branch of Game held a *Wipeout* promotion on launch day



***Wipeout* designer Nick Burcombe had an unfair advantage**



Sony's Interactive's (previously Psygnosis) PlayStation debut outsold *Ridge Racer*











There may not be a game included with the UK PlayStation but the demo disc supplied with it gives a good all round display. From top left, clockwise: Playable demos include *Wipeout, Loaded, Toshinden* and *Destruction Derby*. Besides a realtime demo of *Total NBA* and some fuzzy and rather dodgy video-spooled demos of other games, the CD also includes the legendary dinosaur and manta ray demos and a superb (ifa little repetitive) music videoplayer

Who is it?

Born in 1948, he grew up in rural Virginia and now lives in Vancouver with his wife and two children. One of the original script writers on Alien 3, he also invented the quintessential phrase of the information age.

UK PlayStation and software release schedule

Out Now	SRP
Battle Arena Toshinden	£44.99
Ridge Racer	£44.99
Kileak The Blood	£39.99
Rapid Reload	£39.99
3D Lemmings	£39.99
Novastorm	£39.99
Wipeout	£44.99
Jumping Flash	£44.99
October	
Air (Ace) Combat	£44.99
Cybersled	£39.99
Tekken	£49.99
Discworld	£39.99
Destruction Derby	£44.99
November	
Mortal Kombat 3	£49.99
Starblade Alpha	£39.99
Krazy Ivan	£44.99
Twisted Metal	£44.99
Warhawk	£44.99
Philosoma	£39.99
Assault Rigs	£44.99
ESPN Extreme Sports	£44.99
December	
Total NBA '96	£TBA

Hardware and peripherals

Sony PlayStation (with RF cable and demo disk)	£299	29 sep
PlayStation controller/joypad	£24.99	29 sep
PlayStation memory card/smart card	£19.99	29 sep
PlayStation link cable	£19.99	TBA
PlayStation mouse	£24.99	TBA
Neg Con	£44.99	TBA
Euro AV cable	£34.99	TBA
Multi-Tap	£TBA	TBA
ASCII Pad	£29.99	TBA
ASCII Stick	£49.99	TBA

→ Boy during their respective launches. Unlike the much maligned UK Saturn launch, there also seemed to be just enough stock to go around, too, avoiding the pitiful shortages associated with Sega's launch and also avoiding an embarrassing dearth of unwanted consoles.

The UK PlayStation sells for £299 which includes one controller (slightly bigger than the Japanese model and with a longer cable), an RF cable and a bundled demo disc. This mostly well-produced disc includes four playable demos of upcoming software, assorted fuzzy video clips of other games and also hardware demos (including **Edge**'s favourite – the dinosaur demo, albeit now in letterboxed squash-o-vision). The best day-one deal found was at Toys 'R' Us where it was possible to get the machine and a free game – admittedly, Capcom/Acclaim's less than great *Street Fighter The Movie* – for a tempting £287. Those PlayStation owners who preferred to choose their own software could call Sony's PlayStation helpline from day one, too (Tel 0881 505-50 @ 39p peak, 25p offpeak). This service offers a variety of services for both the fanatical and the flummoxed.

In the US, Sony kicked off a few weeks earlier on September 9th. A $299 price tag (£195) ensured that an incredible 100,000 units flew off the shelves in the first weerkend. One small store that **Edge** visited in Orange County, California, claimed they had sold over 100 machines in the first two days. The US machine is similar to the UK model (except from the obvious NTSC differences, of course), and the fact that composite AV cabling comes with the machine instead of an RF adaptor. Again, instead of a full game a demo CD is packaged with the console (playable demos of *Jumping Flash* and *ESPN Extreme Games* replace *Total NBA* and *Destruction Derby*).

One sobering trait that emerged during the launch euphoria was that males aged between 25-40 were forming the backbone of the sales, rather than kids in their early teens and below. Either the 16bit era has grown up fast or Sony's £20 million marketing spend across mainstream adult media is already paying off...

Meanwhile, in Japan the PlayStation's presence has grown to such proportions it even warranted its own show, Playstation Expo 95, which took place days before **Edge** 27 went to press. Because the show was located in the centre of Tokyo (Harumi near Ginza), it was well attended too – some teenagers even spent the night sleeping in front of the entrance in order to play games first

Capcom, a company whose reputation has been tarnished in recent years, staged a comeback by introducing probably the largest number of new PlayStation games. Shown in playable form were *Street Fighter II Movie* (not the digitised version, but a game based on *SFII* anime), *Street Fighter Zero* (a stunning, almost complete version of the new coin-op), *Bio Hazard* (which has some of the best graphics yet seen on the machine) and *Vampire*, its *Darkstalkers* conversion.

Namco's continued commitment to the PlayStation was emphasised with a huge booth. However, most of the space was occupied by linked Playstations running an early version of *Ridge Racer Revolution* (see page 32). Compared to the original, *Revolution* was noticeably slower (probably due to non-optimised link-up code), and the

Action Stations

On November 7th, Future Publishing launches the Official UK PlayStation Magazine. Edited by *ex*-Edge founder, Steve Jarratt, the 100-page mag includes CD with playable demos, video sequences and screen shots.

The monthly is the third title to enter the saturated PlayStation magazine market. Although, as a bullish Jarratt points out, 'ours is the best. Everyone else is going to have to work hard to catch up.'



One of Sony's less-sporting PlayStation magazine adverts mocks Sega's out-of-this-world Saturn campaign. 'If you still want a Saturn, your head is in Uranus,' jeers the slogan





PlayStation Game Expo debuted games such as *Toshinden 2* (left) and a link-up version of *Ridge Racer Revolution*

it is...

William Gibson, whose seminal 1984 science fiction novel, Neuromancer, introduced the term 'Cyberspace'. His Alien script was apparently rejected for 'not opening up the story'

cars had a tendency to skid too much. More curious was Namco's *Museum Piece* CD which ran alongside its System 11 coin-op parent, the *Namco Classic Collection* (see page 13). *Tekken 2* also made an appearance in coin-op form and was confirmed for a March '96 console release.

Another PlayStation heavyweight was Takara – at least if judged in terms of stand size and design. Its eagerly awaited *Toshinden 2* was presented alongside its mini racing game, *Choro Q*, and created a stir with its strong character design and inventive backdrops. Again, the Japanese division of Sony Computer Entertainment failed to make an impact

Continued





One of the key pawns in Sony's campaign is *Ridge Racer*. However, the UK PAL version (right), is far inferior to the US and Japanese NTSC game (left). The screen is squashed and the frame rate sluggish

Curiously...

Even though the UK PlayStation is designed to run at 50Hz, Edge has discovered that when running a Japanese game (ask an importer how it works – the magazine will not be held responsible for damaged machines!), it supports a 60Hz, full screen, full speed picture, providing that you have a TV that can display 60Hz, and are using an RGB Scart lead. See next month for an explanation.

with any outstanding home-grown software. Despite sequels to *Motor Toon GP* and *Jumping Flash* being in development, it was left to the RPG *Beyond The Beyond* to take centre stage along with *Horned Howl* – a gun game that looks set to go head to head with *Virtua Cop* on the Saturn.

In true Japanese tradition, SCE sectioned off games developed outside of Japan, even creating a separate brand under which to market them. Despite this, titles such as *Wipeout*, *ESPN Extreme Games* and *Warhawk* were popular at the show affirming the increasing status of foreign-developed games in Japan. E

Advertainment

Edge's showcase for the worldwide recognition of videogame advertising. Sony goes retro for its hi-tech baby

Company:	**Sony**
Product:	**PlayStation**
Date:	**Oct 1995**
Origin:	**UK**















After months of speculation and rumour, Sony's killer console has arrived, and with it an... unusual... advertising campaign. 1 We are introduced to the S.A.P.S (Society against PlayStation) logo. Inside the S.A.P.S building the spokesman, a squeaky clean, goodie-goodie American, pulls on his protective rubber gloves. 2 He enters a retro 50s US suburbian household. Teenagers innocently play patti-cake in the background. 3 The spokesman whips out his bagel toaster (the PlayStation). In the background, the parents' jaws drop with shock and disgust. 4 Cut to a testing lab, where a mouse has been subjected to the PlayStation's power (the rodent subsequently self-destructs) 5 This is a healthy young man (a pasty, nerdy character). 6 And this is what happens after playing with PlayStation. The chimp grins inanely. 7 'Never underestimate the power of PlayStation,' says the S.A.P.S spokesman in closing, finishing with a ridiculous salute (similar to that of Red Dwarf's Rimmer).

Nintendo 64 homes in on Japan

Nintendo's new hardware enters the final straight



The obsessive secrecy that has so far surrounded Nintendo's potentially epoch-making Ultra 64 is slowly eroding as a potential Japanese launch approaches. To be renamed Nintendo 64 in the company's domestic market (and not the Ultra Famicom as thought previously), plans are still intact for the worldwide debut of the system to occur at the Famicom Space World (Shoshinkai) event held in Tokyo between November 24–26.



Just as **Edge** went to press, Japanese games magazine Famicom Tsushin revealed the first picture of the Nintendo 64's 'revolutionary' controller (see next issue). While in Europe, Nintendo France (a wholly-owned subsidiary, unlike the now disseminated UK division) recently placed a series of two-page adverts in a variety of French games magazines. The ads picture the machine as well as messages from Nintendo advising anyone offered a 32bit machine this Christmas to politely decline.

While it's understood that Nintendo will be releasing their console in the US and Europe in April 1996, there has been much speculation about an earlier Japanese release. In early summer Nintendo chairman Hiroshi Yamuachi hinted that a December release was possible, and credence has recently been given to this by a comment from Hiroshi Imanishi, general manager of Nintendo's PR department. Speaking to Japanese newspaper Asashi Evening News, he remarked 'Starting Nov 24th in Tokyo we will display 100 64bit machines and 10 kinds of software that we plan to sell initially. We will release the new model within the year.'

Rumours abound on the internet about possible Ultra 64 game releases to be previewed at the Japanese show, and so far it's known that LucasArts' Star wars-based epic, *Shadows Of The Empire*, will be shown along with several other non-Japanese games from Nintendo's 'dream team' consortium of third party developers. Other games expected to make an appearance include a projects from Software Creations and Angel Studios as well as *Killer Instinct 2* and a rumoured 3D-rendered *Donkey Kong* game from Rare.

Hotly tipped to be the flagship Ultra 64 game for the North American launch is LucasArts' *Shadows of the Empire*, described as 'unbelievable' by those familiar with the project. Apparently, *Shadows* is in the mould of *Dark Forces* although with a 3D engine far superior to anything seen before. While concerns have already been voiced about the system's lower-than-expected polygon count, this is more than compensated for by the sheer quality of the textures and effects that can be applied to the polygons. Expect in-game enemy characters constructed from complex texture-mapped polygons that rival those seen in *Virtua Fighter 2*, and 3D worlds far more realistic than any seen before. The game will also include a space combat engine with similar graphical finesse. Expect a more detailed report on the progress of the Nintendo 64 in **Edge** 28.



Hiroshi Imanishi, general manager of NCL's PR department, spoke recently of the chance of a Japanese N64 launch in late '95

N64 add-ons

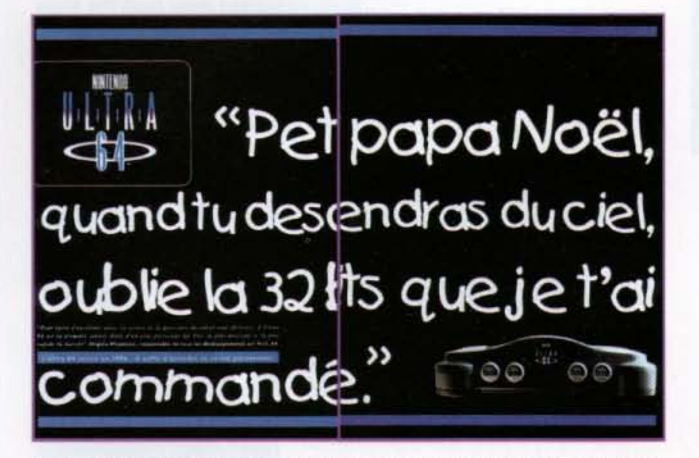
According to US games magazine, Nintendo Power, the 'Bulk' or 'Bulky' storage device, a non-CD disc drive (widely rumoured in Japan to be a propriety Nintendo technology that functions like a SyQuest disk), will also be revealed at the Shoshinkai festival.

Meanwhile, Nintendo has confirmed that it is entering a joint venture with Square and Just System Corp. to provide on-line karaoke, game services, banking and shopping for its 64bit game hardware.



Virtual Boy in trouble?

Nintendo's troubled 'virtual reality' project, Virtual Boy, has just been given a $20 price slash (to $159.95) to save it from the hardware graveyard. A recent NOA press release brushed over sales figures, but cited the 'sell out' statistics of the Boy. Ignored, however, were the distribution figures to many US stores, often as low as just two units.



This French Ultra 64 magazine ad is a cruel play on a French children's Christmas song. The translation reads, 'Little Father Christmas, when you come down from the sky, forget those 32bits that I ordered'

Coin-op giants reveal latest at **JAMMA**

Japan's arcade industry gathers for the main event in Tokyo







Manx T.T. Super Bike was the Amusement Machine Show's main event although the game was just 20% complete. Only one course was selectable but the handling of the sit-on bikes impressed the most

As with previous events, the 33rd Amusement Machine show (JAMMA) was dominated by the ever-spiralling rivalry between Namco and Sega, although this time there was more evidence that other companies were keen to catch up in the technology race. But just as Capcom, Konami and Taito introduced their own attempts at high-end arcade games, Sega and Namco continued to place emphasis on low-cost PCBs that shared technology with home consoles.

What transpired most from the show was the increasing number of blatant clones that the Japanese coin-op industry is content to develop to cash in on temporal gaming trends. Both Sega and Namco software previewed games that looked uncomfortably close to each other company's creations shown at previous coin-op shows: Namco's *Dirt Dash* and *Time Crisis* paid compliments to *Sega Rally* and *Virtua Cop*, while Sega's *Manx T.T* and *Virtual On* owed their respective debt to Namco's *Cyber Cycles* and *Cyber Sled*. At least the quality of all the games →





A stunning _Virtua Fighter 2_ for the Saturn made its debut at JAMMA in playable form (above and right)





The curiously titled _Virtual On_ was AM3's second major JAMMA attraction and featured huge robots competing in enclosed arenas. The Model 2-generated visuals delivered an engrossing experience

Data stream

Total messages posted by members of the alt.fan.oj-simpson newsgroup in the 24 hours before the verdict: **Over 1,000**
Number of video games submitted to the VSC under the voluntary rating system from Sept '94 to Sept '95 that were deemed suitable for all ages: **79.5%**
Projected percentage of total CD game sales taken by infotainment-style titles in 1995: **2.17%**
Shoot 'em up titles: **23.85%**
Amount of time that Star Trek appears on tv screens worldwide: **every hour of the day**
Full capacity of visitors able to pass through Disney Land Paris' Space Mountain in one hour: **2400**
Number of Belgian Households with electronic deep fat friers in 1990: **84.8%**
Number with PCs: **30.9%**
Number of consumers world-wide that had commercial home accounts with an Internet service provider in 1993: **230,000**
Projected for the year 2,000: **74,756,500**
Number of Hungarians on the waiting list to be connected to a telephone line, summer 1995: **600,000**
Number of lego bricks used to build Lego Land in Denmark: **38,000,000**
Estimated ratio of pirated software titles to original software titles sold in Spain: **12:1**
British Telecom's annual expenditure on information technology: **£580,000,000**
Capcom interim net profits to Sept '95: **¥50,000,000**
Capcom interim net profits to March '94: **¥7,300,000,000**



Sky Target*: a Model 2-powered flight sim shoot 'em up that attempted to update Sega's horribly shallow *Afterburner





→ concerned was high enough to detract from such obvious similarities.

The main attraction of the 33rd AM show was the Sega booth, or more specifically, *Manx T.T. Super Bike*, which was situated on top of a gigantic articulated lorry that had hauled the eight linked cabinets to the show. This ensured that for its whole duration, there was a long queue of people waiting to play the game. **Edge** met the game's producer, Tetsuya Mizuguchi, who explained that the cabinet design was finished but the game was only 20% complete with just one course made playable for the show.

Unlike Namco's recent bike game, *Cyber Cycles*, *Manx T.T.* suspends the player without their feet touching the floor, allowing their own weight to swing the bike from left to right. This aspect certainly diffferentiates it from most racing games and makes for a more exhilarating if exhaustive ride. Even at this early stage, the Model 2 polygon graphics were impressive enough to make everyone believe that AM3 could have another hit on their hands after *Sega Rally*.

Virtual On was another stunning Model 2 game developed by AM3 and seems to have been inspired by Namco's *Cyber Sled* coin-op. Set in a futuristic arena, it pitches two robots against each other – each player having their own screen to view the action. There are 3 Japanese-styled robots to choose from, each of them with different weapons and degrees of mobility. The object of the game is to hunt down your opponent and annihilate them as quickly as possible. For a frenetic search and destroy shoot 'em up *Virtual On* has few peers – the speed and smoothness of the action is typical of a high end Sega coin-op complete with ultra smooth 60fps swooping camera angles and detailed textured environments.

Rival internal department AM2 countered with an impressive sequel to *Virtua Cop* (**Edge** 25), and *Fighting Vipers* (**Edge** 26) – a Model 2-powered fighting game featuring a gawdy selection of characters and lacking the visual finesse of the *Virtua Fighter* series. Like *VF*, though, *Fighting Vipers* uses a three-button guard and attack system but also includes final attacks to 'finish' off your enemy. *Sky Target*, another Model 2 game from Sega, is a shoot 'em up in the style of *Afterburner*. However, the action is pre-determined, in a similar way to *Starblade*, awkwardly restricting the player's freedom of movement. For a new game it failed to generate anwhere near as much excitement as its other Sega stablemates.

More interesting was the Sega and Namco conversion war, where the

Continued next page

What is it?

Released by a prominent software company in 1986 to cash in on a major sporting event, this infamous piece of software has been described by industry pundits as 'one of the games market's biggest ever rip-offs'...





***Funky Head Boxers* is the fifth game to grace Sega's ST-V coin-op system – AM3's game will no doubt be ported to the Saturn**

it is...

US Gold's *Mexico 86* – actually developed by Arctic two years earlier. US Gold added charts, patches and a penalty competition, shipped 80,000 units and then watched as the title went straight to number one





***Dirt Dash* takes Namco firmly into Sega territory once again, this time with an attempt at capturing the spirit behind *Sega Rally*. Unlike its inspiration, *Dirt Dash* features five different environments and twin wing mirrors for a better view of the competition**

battle ground is now expanding to the home market with the Saturn and PlayStation featuring highly on their respective agendas. Because of these expanding home markets, both companies are now placing greater importance on their console-derived arcade boards. Trying to build confidence in its low-cost Saturn-based ST-V (Sega Titan Videogame) coin-op range, Sega showed off *Final Arch*, and *Funky Head Boxers*, another AM3 project. So far the ST-V has not been a success in its domestic market in Japan, and there is growing concern that Sega is using the format as a dumping ground for its mediocre titles. Certainly, Sega's premier coin-op designers have expressed little desire to work on the format.

Strangely enough, Sega also presented some Saturn games at JAMMA, including the latest version of *Virtua Fighter 2*. This new playable version included all the special attacks (as well as the subtle extras that made it into the coin-op upgrade *VF2.1*). Saturn *VF2* is a slick and thoroughly stunning piece of programming and this latest version runs at 60fps, includes exceptionally detailed characters (depicted at 704X480 and not 640X480 as claimed on p30). The 'win' and 'lose' positions of the characters have also been implemented. Some details, like fingers, hair and position of the bodies during attacks are not yet finished, however. Besides Sega's flagship beat 'em up (to be released in December in Japan), it was also possible to play →











***Virtua Cop*-inspired gameplay was the secret of Namco's success with *Time Crisis* – a System Super 22 gun game with utterly beautiful graphics. One feature is a pedal that allows the player to hide behind objects to avoid being hit (right and above right)**









Besides a glimpse of stunning ***Soul Edge*** **(above), Namco presented its** ***Classic Collection*** **(left) featuring** ***Galaga*** **(top right),** ***Xevious*** **(centre right) and** ***Mappy***



→ *Sega Rally*, *Hang-on GP '95* and *Virtua Cop* on the Saturn.

The competition

between Sega and Namco is still visibly intense with Namco's latest two System 22 games paying obvious homage to both Sega's *Virtua Cop* and *Sega Rally*. *Dirt Dash* is a rally game fully inspired by the latter, and uses Namco's System Super 22 board to generate five different fully texture-mapped environments. There are a choice of two cars – a sports jeep and a giant 4x4 truck and the unit's seat is equipped with small air compressors to create motion. With an announced release date of January 1996 it looks at though much more work is to go into *Dirt Dash*.

Time Crisis is an other example of Namco mimicking Sega's design skills, this time those implemented in *Virtua Cop*. But Namco has improved on the formula by including an innovative pedal feature that allows the player to duck and hide behind objects, thus avoiding enemy fire. It is possible to disappear from the enemies' field of vision as long as you keep the pedal pushed. This new pedal feature has changed the gameplay considerably. After a quick look at the enemy position, the player can hide, reappear, shoot and disappear. This can continue as long as the enemies are alive. Moreover, the action is far more impressive than *Virtua Cop* with more aggressive enemies wielding heavy weaponry. The gameplay has more permutations than *Virtua Cop*, too, with the player being able to kill the enemies in different ways according to his hiding position. Like *Virtua Cop*, the freedom of movement is restricted to allow the player to passs through the game with only the use of the gun to worry about. Despite the limited lifespan of most gun games, Namco has succeeded to improve on the gameplay in *Virtua Cop* and *Time Crisis* could eventually render *Virtua Cop* obsolete.

Boosting the credibillity of its own low-end hardware – the PlayStation-powered System 11 board – Namco revealed *Soul Edge* (see page 26), a stunning fantasy beat 'em up. Although the game was only 50% complete with just a few combat moves present, the graphics were still remarkable. Numerous light-sourced textures compensate for the lack of polygons, creating beautiful characters and scenery. *Soul Edge* promises to be a massive PlayStation hit.





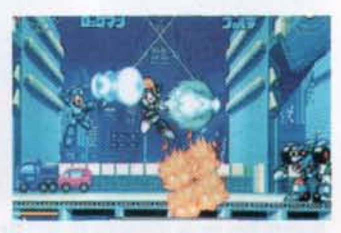
Capcom's range of arcade games included ***Toshinden 2*** **(above, right) and** ***19XX*** **(top)**











Marvel Fighters **continued Capcom's preoccupation with beat 'em ups (left) while** ***Rockman*** **made a surprise appearance in coin-op form (right)**

Continued next page


Nazca Corp's *Metal Slug* is a decent '80s-style Neo Geo blaster


Taito had a limited presence but its vertical shooter *Dekirindan* (above) and *Puzzle Bobble 2* (right) proved popular



Namco boss lives on

Due to an unfortunate error, Edge 26 contained a story claiming that Namco's Japanese chairman, Masaya Nakamura, died in 1989.

This sad and entirely untrue statement found its way into the magazine during its punishing 26th deadline when the phrase 'met his match' was misinterpreted for 'met his maker' by a temporary clerical assistant. Edge apologises for any embarassment caused and would like to make clear that Mr Nakamura is, in fact, alive and well. Sumimasen!

Namco's fourth System 11 release was its *Classic Collection* – a compilation of three superb Namco coin-ops from the early '80s – *Galaga, Xevious* and *Mappy*. All three games, faithful to the arcade versions, also include 'arranged' modes with different graphics and features. Namco will be releasing a PlayStation CD, *Museum Piece Vol.1*, in late November with such gems as *Galaga, Xevious, Toypop, Pole Position, Bosconian* and *Pacman*.

One of Capcom's big surprises of the exhibition was the presentation of *Toshinden 2*, developed by Tamsoft, the creators of Takara's original game. Newly featured is the power-up system, dictated by three on-screen gauges. When these reach maximum, the player is powered-up and able to use a very efficient attack.

Like *Tekken 2, Toshinden 2* also uses effective lighting to exploit its 3D engine. One stage takes place in a night club where lights cast ever-changing shadows on the ground. Although dark, this stage has some spectacular effects.

Capcom also presented its latest CPSII sprite beat 'em up, *Marvel Super Heroes*, which adopts a graphic style similar to *Street Fighter II Zero* and *Darkstalkers*. The game follows the classic beat 'em up structure with attractive graphics and impressive special moves. A variety of interactive locations are promised, enabling the player to hurl scenery at their opponent etc.

Capcom also showed *19XX*, ending the tradition established by classic Capcom shoot 'em up, *1942*, by being the last in the '19' series.

Also making an appearance was *Rockman: the power battle*. Probably the only true platform game at the show, doubts were raised about the viability of such a title. After all, *Rockman* (aka *Mega Man*) failed to generate much excitement on 16bit after his NES and Game Boy success.

Taito's fortunes have taken a dive in recent years, with the second roll out of its average *Dangerous Curves* racing coin-op (first presented six months ago during the AOU show) concealing a lack of new high-end developments. Instead, to mirror its activities in the Saturn market (Layers Section), it previewed its latest vertical scrolling shoot 'em up, *Dekirindan* – a game replete with the design hallmarks of the masters of vertical shoot 'em up creation, the now defunct, Toaplan. Despite a lack of originality, there seems to be no end to the popularity of well-designed and structured shoot 'em ups in Japan.

Puzzle Bobble 2 was also present on the booth proving that even these derivative, but fun games can still hold their own in the Japanese market. In fact, such games are popular with Tokyo's troops of OLs (office ladies) that pour out of work after six.

Taito also presented its twin cabinet-driven *City Diver*. The polygon and LaserDisc graphics, first shown 18 months ago, are looking dated already.

Konami presented its hugely expensive *Speed-King* simulator once again which, ironically, many agreed looked far too close for comfort to *Wipeout* on the PlayStation. It also had two new games, though – *Midnight Run* →




Konami has made attempts to fight its way back into the arcade super league occupied by Sega and Namco, but new efforts such as *Henry Explorers* (above), aka *Crypt Killers*, failed to make many heads turn




The return of a legend

***Castlevania*, Konami's cult platform series that won fans on the NES, Game Boy and Super NES, is set to appear on the PlayStation and Saturn early next year. Little is known as this stage although from the above shot it looks like Konami has eschewed the rumoured DKC-style rendered graphics in favour of more traditional hard drawn sprites and backdrops, as seen in its latest SNES version, the lacklustre *Castlevania: Vampire's Kiss*. Expect more details soon.**



***Salamander 2*: a sequel to Konami's classic coin-op of yesteryear**

→ (*Road Fighter 2*) and *Henry Explorers*. *Midnight Run* is a night-time racing game with sports cars and two selectable views – from the inside of the car or from the outside . The graphics are colourful and well-defined, and the driving lane large and manageable. Differing from other racing games, *Midnight Run*'s main challenge is avoiding other cars and different vehicles: trucks, bikes etc. The driving sensation is good but not in the same league as *Ridge Racer* or *Sega Rally*.

Henry Explorers is yet another *Virtua Cop*-style game. However the game has disregarded new 3D technology and instead adopted the graphical style of classical bitmap shooting games. As a result the graphics are not up to par. Unfortunately the action doesn't stimulate either – often the screen is splattered with gunfire making it difficult to see what is happening. Konami could find they regret staying on this particular bandwagon.

Besides news of SNK signing a deal with Sega to port games across to the Saturn (the first games will be *King Of Fighters '95* and *Fatal Fury 3*), SNK announced that its much-rumoured 64bit arcade and console chipset would be released in mid 1996. SNK said they had reached the limits of 16bit hardware (recent release *Pulstar* pushed 300 megabits!) and needed to focus on new boards capable of competing with current technology.



Even though the few Neo Geo games on show were from third parties the company did stress that Neo Geo development would not be abandoned. *Sonic Wings 3* and Aicom's *R-Type*-styled *Pulstar* continued SNK's shoot 'em up lineage, while Nazca Corp's *Metal Slug* proved the genre could be parodied. Imagine a humourous version of *Contra* with the ability to climb into tanks, bikes and planes – good solid fun.

SNK also showed off third party games such as *World Tour Golf* and even a horse racing game, *Stakes Winner*. The company also said it would alternate the release of beat 'em ups with other genres in future (a digitised *Art Of Fighting 3* is due next), perhaps accelerating the slow demise of the sprite-based scrap in Japan. **E**





Konami's *Midnight Run* uses the company's new polygon hardware to good effect











Express yourself in **Edge**. Write to: **Edge** letters, 30 Monmouth Street, Bath, Avon BA1 2BW

Well, surprise, surprise: Future Publishing is to publish the official PlayStation magazine. I thought that was **Edge**. I've always had the funny feeling maybe Sony owned Future Publishing due to the sheer amount of arse licking you give them.

Anyway, with regards to the letter by Anon (or was it **Edge**?) in issue 25. He is (or you are) missing the point and clearly has not spoken to a 3DO owner. People who bought a 3DO did it on the understanding that The 3DO Company would upgrade as and when the technology was available at a reasonable price. And two years later, that is exactly what they have done. 3DO owners do not feel abandoned. In fact, they are absolutely excited by the prospect. Still, I can imagine that M2 is making some people incredibly jealous. I am just surprised at you for printing such an obvious attempt to upset the new-found confidence in the 3DO. On second thoughts, no, it doesn't surprise me.

So can we now hope to see issue after issue of M2 coverage? That is what you do, isn't it? Cover the future of video entertainment? Or was that for the PlayStation only? Incidentally, in issue 25 you mentioned that 'Model 3 will leave new high-tech rivals such as 3DO M2 for dust'. Now there's a surprise! You never mentioned 3DO as a rival before. As far as you've always been concerned, Sega, Sony and Nintendo are all each other's rivals. 3DO must feel very honoured! Or was that just another chance for one of your mandatory 3DO digs?

G. Wilson, Portsmouth



G Wilson says that 3DO owners don't feel betrayed by the prospect of M2 surpassing their current machines. That was the idea from day one

The decision to print a letter from a disgruntled 3DO observer was hardly an attempt to undermine confidence in 3DO. It was one reader's opinion and contained points that warranted space in the magazine. Besides, **Edge** defended some of The 3DO Company's motives in its reply. Your attack on the magazine's integrity because of the favourable press that Sony has received seems like a reaction borne out of frustration. As you suggest, **Edge** covers the *future* of interactive entertainment, so that's why you'll find previews of cutting edge games like *Soul Edge*, *Ridge Racer Revolution* and *Total NBA* on the PlayStation, and just one game worthy of pre-release attention on 3DO, *Star fighter*.

3DO owners will no doubt be excited at the prospect of M2, and yes, **Edge** does intend to cover it extensively, just as last month's M2 feature proved. Regarding **Edge**'s comparison between Sega's Model 3 arcade board and M2, it was an assessment made purely on technical grounds. It was especially appropriate given that M2 technology will also be used in the arcades.

Excellent magazine and I will be resubbing soon. David Wareing's letter (**Edge** 25) made me write to you, though. The Mac has a lot going for it, shame the same can't be said about their condescending owners. I meet them daily in my job, bemoaning the lack of decent software for their machines. If your own company wants to stay stuck in the niche and not move beyond 10% of the market, then neither will the games companies invest the same cash in a Mac game for 10% of the return of the same PC title.

For many years Mac owners have turned their nose up at anything PC related, and that included games. Now they've changed their minds about games, they find that there isn't much apart from the Sim series, some Bullfrog classics and flight simulators. Other than that the games are conversions of new bestsellers only. The programmers of *Marathon* realised that only Mac owners getting off their backsides and learning to program will generate a regular flow of Mac software, but instead we have people like Mr Wareing who would rather whinge to **Edge**.

Two final things, Mr Wareing – make up your mind whether

you want pretty pixels or fast gameplay. If it takes 320x200 resolution to make *Doom* or *Hi Octane* run quickly on a modest 486DX2/50 I know which one takes greater priority, but your smug remarks mean nothing. If I do want the 800x600 resolutions and above for my non-Pentium, I buy a new graphics card. Secondly, you're closer to the PC than you think – I invite any Mac owner to tell me of any new software which runs at a satisfactory speed on anything less than a Performa 630 with 8Mb RAM – since plenty of 460s, 475s and 630s are still out there – just wait until they want to play games…

Kenneth Henry, Middlesex

Let's end this once and for all. It's pointless bickering over who has the better system, since PC owners argue upgrade boards and RAM, whereas Mac owners scream Operating Systems. Macs were designed for their user-friendliness, PCs for their adaptability. However, as they evolve, Macs and PCs are becoming similar in both speed and cost, with only the operating systems separating them.

The fact is, there are more PCs, and hence more PC games. In gaming terms, the Mac is where the PC was a few years ago. Although that is changing, software companies obviously want to cater for the largest market. Ironically, there are so few quality Mac games that when one does arrive the sales can be enormous – can that be said of the swelling market of mediocre PC titles?

I would like to respond to Doug Holmes' letter in issue 26. The Atari European development centre was established in January of this year, with the express aim of encouraging and working with small, innovative and creative development teams from around Europe. If the teams have great game designs on paper, we work closely with them to allow them to work up those designs on the Jaguar development kit. When we are able to assess the viability of the product we discuss funding through to completion. Our aim is to provide the facilities to make dream games a reality so we, and Jaguar users, will benefit to the tune of some innovative and playable software.

The first fruits of this labour are about to ripen with the imminent release of *Attack Of The Mutant Penguins* – we feel the most original game of the year – and *Zero 5*, to be launched early next year. Both these titles were developed in this fashion and are from small innovative teams in Britain. Both companies have already agreed terms for future developments with us. These are just the first of a number of titles due from this development department and we are looking for more. So, if Doug or any other developers who have designed the game they have always wanted to write, would like to contact us, we would be very happy to talk to them.

Darryl Still, Atari UK

Edge fully endorses the encouragement of small developers, particularly those producing original and creative software. Some friendly advice, though, Darryl – *Attack Of The Mutant Penguins* sounds more C64 than 64bit…

I would be very grateful if you could answer the following query: Why do Sony in their 'open your mind' leaflet designed to promote the UK version of the PlayStation, insist on claiming that their machine is capable of 'delivering over one million polygons per second'? It has stated on more than one occasion that the PlayStation is only capable of 300,000 polygons per second. What is going on? Have Sony increased their claims since talk of 3DO M2 and its capabilities? Is the PlayStation (in comparison to M2) a legend in its own mind, or is **Edge** wrong?

Chris Norris, Bury

Edge addressed this anomaly correctly in Q&A issue 19, although for a more in-depth explanation SCE provided **Edge** with an official response: 'The figure of 1 million mentioned in the leaflet relates to the power of the GTE (the 3D maths chip). The figure of 360,000 relates to the GPU (the graphics processor). In the world of realtime 3D graphics, the tough bit is crunching through the very complex maths required for 3D transformations, lighting, animation and special effects – drawing them is the easy part. Numbers are fine on paper, but it's games on screen that ultimately matter most.'

After splashing out £500 plus for both a PlayStation and a Saturn, and having a 29-inch Sony Trinitron TV with full home cinema set up – speakers, prologic amps etc – why is it that

Continued next page



Chris Norris is confused about the PlayStation's polygon prowess. Some reports claim it can shift one million polygons per second, others say only 300,000. Edge spoke to SCE to find out the truth

viewpoint

Continued

none of the software currently available for either Sony or Sega platforms is making use of CD storage to produce tricks and effects in Dolby surround sound?

If Trip Hawkins' machine can do so in games such as *Road Rash* and *Return Fire* etc, adding to the atmosphere and overall enjoyment of the game, why not the Saturn and PlayStation? I believe the Neo Geo CD gives a surround effect or, if not, a simulated one, in its titles. Even the trusty old cartridge-based SNES, in games like *King Arthur's World* and *Turrican*, produces stereo sounds, so why not the so-called next gen hardware?

Whether the Ultra64 with its 64bit DSP chip and 64 sound channels makes use of stereo capabilities remains to be seen.

Firoz, Coventry

The lack of Dolby Surround Sound in most games is probably because most people don't have access to such a set-up. There have been games produced for the PC Engine CD and Mega CD that have included DSS and Psygnosis' *3D Lemmings* is one PlayStation game with Dolby Surround sound, but these are the exception to the rule. Normal digital stereo, however, is well exploited by most new console games.

Many older gamers, who really appreciate the older arcade games from the early eighties, are begging for arcade translations (look at all the discussions on the newsgroups on the Net). With an advanced console like the Sony PlayStation combined with a large storage capacity it should be possible to make pixel-perfect arcade translations. If the game companies would put ten perfect arcade translations on one single disk you'd have a mega seller. Since it isn't so hard to port those games over, the cost won't be too high so the price of a arcade compilation could be at budget range. Games from Konami like *Yie Ar Kung Fu* and *Rush 'n Attack* would attract many gamers and would perhaps even sell the Playstation to a new market. So what are the big companies waiting for?

I have a suggestion for a future edition of **Edge**. When you look at newsgroups such as rec.games.video.classic you can see that collecting classic videogames is becoming huge. Every week there are more auctions on the Net and the prices are rising. Although this is not the future of gaming it might be nice to have an item about this collecting thing. Most collectors have seen the rise and fall of the gaming business and know that it's playability that counts and not the graphics (most collectors have an interest in next-gen games too, however).

Danny Oosterhoff, Oostzaan, Netherlands



Danny Oosterhoff believes re-vamped old classics could create a new next-gen market

The growing interest in retrogaming is a poignant reminder of how many older games still outshine the latest releases in gameplay. But nostalgia is also something that shouldn't be overlooked, either. Namco's planned release of its *Classic Collection* coin-op (including *Galaga*, *Xevious* and *Mappy*), as well as its imminent PlayStation *Museum Piece* CD (see next issue) shows that retrogaming has evolved from what has so far been little more than a niche interest into a bankable concept. **Edge** intends to address the subject in greater detail, soon.

For the last three months I've noticed a bias in your magazine towards Sony's PlayStation. In **Edge** 25 your lead story was about the development of the 'Saturn 2'. We were told that the machine is being developed due to shortfalls in the technology used in the Saturn, that 'Although Sega is making great efforts to improve the quality of the Saturn's 3D, the system may find it tough going in 1996', and that Sega has 'conceded internally the Saturn will face tough competition from the PlayStation and will not be able to match the onslaught from the Ultra 64 in 1996'. The whole tone of the story was that Sega was panicking, and developing a new machine prematurely. In fact, it was a perfect advert for the PlayStation. No mention was made of the fact that Sony, too, are working on a new version of the PlayStation.



***Attack of the Mutant Penguins* was developed by an independent team with help from Atari's development centre. See letter from Darryl Still**

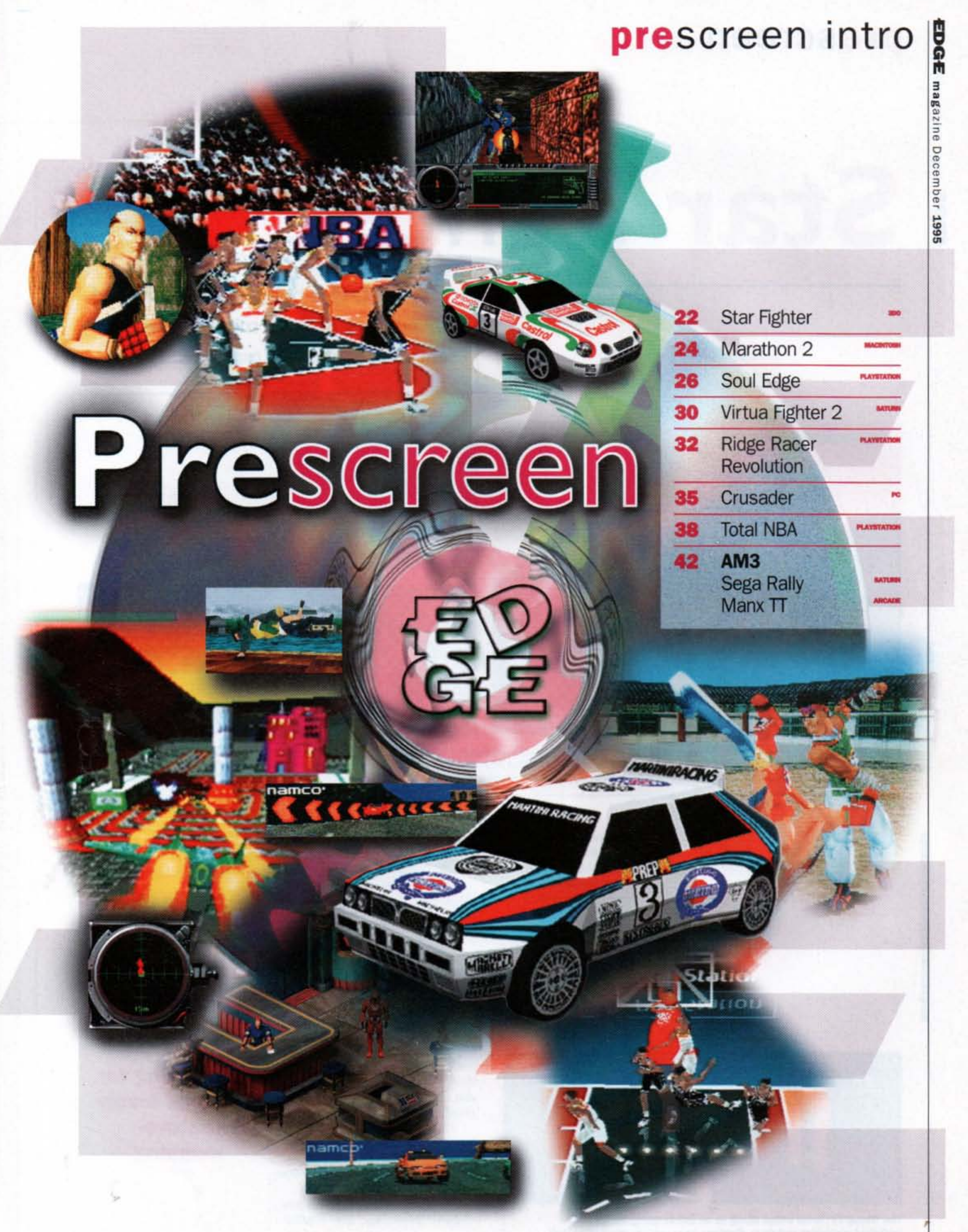
Moving on to the Prescreen previews, we see *Darkstalkers* on the PlayStation, with no mention – even in passing – that it is also to be released on the Saturn. *Hang On GP '95* and *Sega Rally* both get previews despite little information being available from Japan, but both previews seem to spend more time slagging off the graphics in *Daytona* than promoting the upcoming games. The feature on development house, Scavenger, was an interesting read, but again both the Saturn games under development only got a brief mention. In fact, the PlayStation got an almost equal mention as the Saturn, even though the company is not yet producing PlayStation games!

However, it is the reviews section which is the most telling – three PlayStation games, two 3DO games, one PC game and no Saturn games. Are you really telling me that no Saturn games of interest were released in the past month?

But what's this I see: an advert for the official PlayStation magazine from Future, to be launched this October. Could this explain the team's enthusiasm towards the PlayStation at the expense of its major competitor?

James Reader, Oxford

Absolutely not. Future Publishing secured the licence for The Official PlayStation Magazine purely on its reputation for producing high quality magazines. Yes, **Edge** has given Sony favourable coverage over the past two years (although it has received criticism, too). Judging by the success of the US and European launches, it seems that **Edge**'s opinions have been more than vindicated. With regard to games coverage, remember that previews do not exist to 'promote' games but merely to inform. An absence of games being reviewed for one particular format (the lack of PlayStation games in issue 23, perhaps?) will usually result from either games arriving too late to be included, or equally likely, that they simply don't warrant inclusion (not necessarily just because they wouldn't score highly but perhaps because they are not interesting enough). With specific regard to *Dalkstalkers*, at the time of writing it was not announced if Capcom would also be releasing the game for the Saturn.



Prescreen

Star Fighter

Just as 3DO is being cold-shouldered by punters desiring more power, another title could make heads turn...









The explosions in *Star Fighter* fill the screen full of colour. One excellent feature is the scorching of grassland that occurs as your laser strafes the landscape. When buildings are close to the craft, they appear detailed and fine, but severe distance clipping (used to speed up 3DO's relatively plodding hardware) causes scenery to 'jump' into view. Some levels occur in a computer simulator, recognisable by the rainbow landscapes (above)

At a time where 3DO is being defeated by next generation hardware at every battle, it seems appropriate that a game set in the year 3,000 could see a turning point for the console's fortunes.

The plot follows a young pilot's training through a starfleet academy, at first introducing basic flying movements and strategies, while later progressing to complex group attacks on enemy bases. In other words, it's a flight sim shoot 'em up.

Format:	**3DO**
Publisher:	**Studio 3DO**
Developer:	**Krisalis**
Release date:	**December**
Origin:	**US**

However, it's the 3D engine which really impresses. The majority of missions take place over rolling hills, allowing for some lovely texture-mapping to push 3DO to its limits. Fly over the sea and the waves ripple beneath you. Laser the mountain side and the grass flares up, dying down to reveal a scorched wasteland below.

The atmosphere is further enhanced by an ambient soundtrack which strangely complements the action perfectly, emphasising the freedom associated with flying.

To counter-balance 3DO's now sluggish technology, *Star Fighter*

It's the 3D engine which really impresses. The majority of missions take place over rollinmg hills, allowing for some lovely texture-mapping





The 'Trash TV' level whips along at an exhilerating 30 fps. The on-board computer regularly displays your squads messages (left)



Docking into the mothership (top) is a precarious procedure. Locking on to a target surrounds it with an elaborate wireframe (bottom)

heavily clips distant scenery. Usually the action is so feverish that 'flying blind' like this does not affect the gameplay, but occasionally, when distant targets are essential to complete the mission, constantly referring to the map is irritating.

This clipping results in a passable frame rate of around 10-15fps, sufficient to create an enjoyable ride. On later levels, which take place in space, the action steps up to a more healthy 30fps, allowing for intense Star Wars-like sequences while flying through asteroid fields.

As the games-playing community becomes more aware of 3DO's limitations, it's essential for programmers to discover the hardware's hidden abilities. If *Star Fighter*'s example is anything to go by, that time may be sooner than sceptics think.



The variety of scenery and textures makes every mission a new experience

Marathon 2

Heralded as the saviour of Mac games, *Marathon* did for Macs what *Doom* did for PCs. And now there's a sequel...

Format:	**Macintosh**
Publisher:	**Bungie**
Developer:	**In-house**
Release date:	**TBA**
Origin:	**US**







***Marathon 2* promises the usual bloody carnage, and more**

Marathon first appeared on the Apple Macintosh at the start of 1995. In essence a *Doom* clone, Mac owners world wide went crazy for the game, with *Marathon* add-ons sprouting all over the Internet. The game was for Mac owners what Rubik's cube was for puzzle freaks.

And hardly surprising. Superlative gameplay, often outclassing *Doom* by requiring the user to have a brain, not just a trigger finger; beautiful hi-res graphics (since Macs are unable to automatically display a blocky 320x200 screen res, high-end machines could experience sharp, crisp action); and in-your-face network carnage with up to eight players destroying anything that moved, *Marathon* was deservedly a classic.

Ten months later and *Marathon 2: Durandal*, is soon to hit the streets. The plot continues where *Marathon* left off. After recapturing the alien-infested space ship, the UESC Marathon, you are beamed down to the aliens' home world to finish off the business once and for all. And so begins much of the same.

Marathon devotees (for Mac owners the game is close to a religion) will be delighted to discover little has changed in the gameplay. The subtleties of the original, which provided a steady learning curve and new surprises at each corner, still exist, as do multiple weapons and big gun power-ups.

Play occurs on a cinema-style panoramic screen, capturing a sense of realistic vision











The game leads the player through a sequence of plot-lines, described by the frequently-placed computer terminals found on the planet

So what's new? Visually, the screen display has been altered. Now play occurs on a cinema-style panoramic screen, more accurately capturing a sense of realistic vision. Bungie software have also included lava and water, which gently bobs and flows as waterfalls pour into the







Compared to *Doom*, the aliens look a bit weedy. *Marathon* tries to keep an alien hierarchy, with the same species having different attack formations. Later in the game the player will be introduced to more sophisticated, menacing foes. A new inclusion is lava pits (right)





Top: a tiny display, suitable for sluggish Macs. Middle: a forced 320x200 resolution – fast but blocky. Bottom: hi-res is beautiful

cavern. If the going gets too tough you can hide beneath the water, but if you fall in the lava it's game over.

Bobs, those pathetic characters from *Marathon* who did little bar stand in the line of fire, have at last been given a purpose. Intent on destroying the alien horde, they now beam down to the planet with you. After clearing an area they return to the ship and await a new mission. This has two effects. Firstly, Bobs do assist in wasting the locals, sometimes leaving the player to stand and watch. However, place the game on 'total carnage' level, and watch the guts fly. In these instances the Bobs are invaluable alien fodder, providing you a precious few seconds to either think of a strategy, or run and hide. Of course, shoot a Bob in the back, and he may turn on you.

As with *Marathon*, the Mac's sound chip has been exploited to its extreme. Stereo sounds absorb the player, fading into the distance as you continue on your journey. The most significant improvement is the ambient sound effects. The wind howls in the outside scenes, waterfalls splash to the lakes, and the lava boils as you run across it.

The game allows for reduced screen sizes and low resolutions, but realistically this is a PowerMac game.

Marathon 2 is guaranteed to be a smash hit on the Mac, where perhaps on the PC it would struggle. The 3D engine is at the high end of the *Doom*-clone spectrum, and the game play is as good as, if not better. With any luck the Mac *Marathon* versus PC *Doom* will create as big a commotion as the historical Spectrum-Commodore 64 feud. If so, that can only be a good thing, fuelling developers attempts to outclass each other, not just on the same platform, but across many. **E**





The original *Marathon* – full of gore (top) with eight-player network play (bottom)

Soul Edge

There seems to be little to stop the barrage of games entering the 3D beat 'em up arena. Namco's latest delivers a compelling visual punch

***Soul Edge* features beautifully designed, highly detailed backgrounds which incoporate impressively textured polygons**



Soul Edge* sacrifices a pixel-smooth 60fps update for hi-res, 640x480 graphics and detailed polygon backgrounds. The result is a visually stunning game that bears more than a passing resemblance to Takara's *Toshinden

Format:	Arcade/ PlayStation
Publisher:	Namco
Developer:	In-house
Release date:	TBA

It seems a strange move for Namco to unveil another System 11 powered arcade beat 'em up so close on the heels to *Tekken 2* – surely a further, similar title would simply undercut attention to the sequel and dilute the coverage given to both games? However, *Soul Edge* still has a way to go in its development – it's 50% complete and has only just been shown (in video form) for the first time at the recent JAMMA show and the title already seems to represent a departure from Namco's previous beat 'em up design philosophy. In fact, in many ways, the game owes more to Takara's *Toshinden*, than Namco's own *Tekken* series.

As the screen shots show, *Soul Edge* features beautifully designed, highly detailed backgrounds, which incorporate impressively textured polygons. Perhaps reacting to complaints about *Tekken*'s lack of true backgrounds (which features 2D parallax scrolling bitmaps), it seems that Namco has pulled out all the stops to create some well-designed and immersive settings much more in line with those in *Toshinden*. The game also runs in the PlayStation's hi-res mode (640x480) which, again, accentuates the emphasis placed on graphical quality. But it is not only the





Sparks fly (top) while the above background reminds of Sega's *VF2*



Soul Edge bears more than a passing resemblance to *Toshinden* in its gameplay as well as its graphical style

backgrounds that will gain from detailed, hi-res graphics. The fighters are graphically sharper with much more defined characteristics than seen in most other console beat 'em ups. This intense level of graphical detail has taken its toll, though (on the frame rate, at least) – in its current form, the game runs at 30 fps, rather than 60fps, taking a little surface gloss off an otherwise stunning game.

Soul Edge bears more than a passing resemblance to *Toshinden* in its gameplay as well as its graphical style. Most noticeably, fighters will employ weapons, rather than kicks and punches, although these will be possible as well. The weapons will relate specifically to each fighter's origins – there will be a samurai warrior brandishing a Japanese sword and a Spanish matador with a catal.

As in *Tekken*, there's a vague story-line to the game which attempts to place the combat in a setting, with a definite goal for the fighters. The scene is a fictitious 15 century kingdom where various characters gather to fight for possession of a magical sword.

There is no doubt *Soul Edge* looks mightily impressive, even at this stage. Most importantly, it represents a continuation of the healthy relationship between Sony and Namco which will soon see several arcade hits transported to the PlayStation. Besides *Tekken*, Namco will soon



The character detail and use of lighting in *Soul Edge* is unsurpassed (above). The screen zooms out as the fighters move apart (left)

Continued next page







***Soul Edge* tries to create strong characters and an atmospheric setting, by introducing armour-clad fighters from all over of the world**



Rather than the usual kick and punch attacks of most other fighting games, *Soul Edge* uses weapons, often to great visual effect





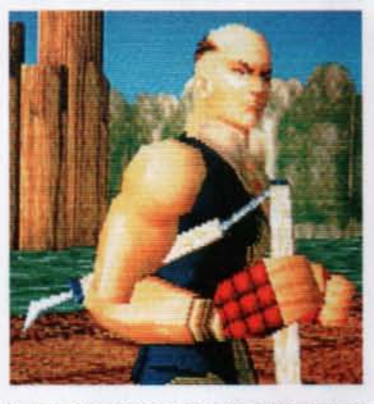


Hhighly-detailed polygon backgrounds zoom in and out (top)

release its *Classic Collection* (aka *Museum Piece Vol.1* with three extra games thrown in) and *Tekken II* on Sony's home console.

By contrast, Sega's ST-V (Saturn-powered) coin-ops have, so far, only resulted in *Golden Axe: The Duel*, *VF Remix*, with boxing (see news), baseball (Edge 25) and puzzle games on the way, too.

This direct link to the arcades could prove to be an important source of software for Sony – if the arcade original is well-received the conversion will have an almost guaranteed sales base. And with Namco, Capcom and Konami all committed to developing games for the arcade that can be easily ported over, it certainly seems like Sony are gaining valuable ground in this particular battle.





What impresses most about Namco's character design is the level of texture detail that has been applied to facial features and armoury

Virtua Fighter 2

Virtua Fighter is the game that sold the Saturn. Now the sequel promises what was previously thought impossible

Format:	**Saturn**
Publisher:	**Sega**
Developer:	**In-house**
Release date:	**December**
Origin:	**Japan**









VF2 on the Saturn promises to contain all of the fluid animations that made the arcade version such a smash hit



Arguably the first true 'next generation' console game. That's how Edge refered to *Virtua Fighter* when reviewed last December. Sega's premiere Saturn title redefined the beat 'em up genre, introducing more believable 3D characters and a fluidity of animation that had never before been captured. Since then Sega have faced a powerful combo in the form of *Toshinden* and *Tekken* and there are more lethal weapons on the way: *Tekken 2* and *Soul Edge* (see page 26). However, Sega are well placed for a counter attack – *VF2* has a December release date sketched in for Japan.

The latest version, shown at the JAMMA show recently, was the first playable demo of the game seen. It is still only 40% complete, but some improvements over previous versions are visible. Most significantly the features of the fighters are becoming more defined: shadows to the face have been added and the fighter's facial gestures are more realistic and intimidating. Furthermore, according to Keiji Okayasu (head of development on *Virtua Fighter 2* for the Saturn), all the special moves are now included.

From the early version Edge played, it looks as though *VF2* is going to be a truly ground-breaking release. This is perhaps partially due to the fact that programmers are finally learning to utilize the Saturn's unique VDP2 (video display processor) chip. The chip can generate and manipulate 2D backgrounds, leaving the twin processors free to deal with the fighters themselves. The result is swift, elegant animation at 60 fps – that's the same speed and fluidity as the *VF2* coin-op and *Tekken*, too.





2D background scenery such as the wall (top) are scaled smoothly in and out to hide the lack of polygons

The VDP 2 chip could be the key to success for Sega: the PlayStation does not have an equivelent chip and demands for better animation and more realistic movement are placing greater and greater pressure on each console's processing power. It seems that, in terms of hardware, the next bout between Sony and Sega could be the most telling... E

The eight characters from the arcade version will be accurately duplicated on Saturn *Virtua Fighter 2*. If early indicators fulfil their potential, the game will be the most impressive Saturn title to date. No doubt this game alone will shift thousands of Saturn units

Ridge Racer Revolution

As *Sega Rally* prepares to put another feather in Saturn's cap, The PlayStation is attempting to go one step better in the race for the ultimate driving game





Players will be given the option to participate in a head-to-head style duel with a single computer controlled car. There will also be a 'Free Run' mode where you can race against the clock and save your best times



Format:	**PlayStation**
Publisher:	**Namco**
Developer:	**In-house**
Release date:	**December**
Origin:	**Japan**

Namco will have to deliver something special to stay ahead of the competition

On its release *Ridge Racer* was regarded by many to be the best racing game available on any platform - better, most importantly, than Sega's Saturn equivalent, *Daytona USA* (for reasons of arcade authenticity rather than gameplay superiority). Now, with an impressive-looking *Sega Rally* on the way, Namco will have to deliver something special to stay ahead of its competition.

Ridge Racer Revolution is the home console sequel to *Ridge Racer*. It's not called *Ridge Racer 2*, because that name has gone to the arcade link-up version of *Ridge Racer* which featured tweaked graphics and a night-time setting. *Revolution* will employ many of *Ridge Racer 2*'s new features, but its circuits will be different.





The graphics do certainly look good, but perhaps just a touch derivative?



As with *Ridge Racer 2*, *Revolution* will feature a rear-view mirror





***Revolution*'s cars have been given new decals and more detailed trim**

In fact, the game will include several changes to the *Ridge Racer* format. For example, the game system is undergoing a process of modification to provide a greater variety of pre-game options.

Furthermore, both beginners and advanced cars will be available right at the start of the game. This means there will be no need for skilled players to go through all the levels to get a car that fits their abilities.

However, despite these interesting features, these early screen shots show a game that's strikingly similar to many other racing titles. Can Namco et al continue to compete with the same material? Just how long can this habitual formula abuse last?





***Ridge Racer Revolution* will include a link up option, for which two PlayStations, two monitors and two copies of the game will be required**

Crusader

Electronic Arts' latest combines industrial espionage with a healthy dosage of explosions. But is it a step forward or a rehashed old formula?



Format:	PC CD-ROM
Publisher:	EA
Developer:	Origin
Release date:	Late October
Origin:	US





The explosions on *Crusader* are spectacular, and can wipe out clusters of attacking bad guys in one go. The characters are limited to human form, although mechanical creatures can be activated and used

Corporate corruption, insane killer robots, and a rebel force intent on destroying it all

As 3D mania tightens its grip around the games industry's throat, it's refreshing to see Electronic Arts adopting an isometric view for their puzzle blaster, *Crusader: No Remorse*.

The plot centres around corporate corruption, insane killer robots, and a rebel force intent on destroying it all.

This is essentially an excuse to shoot lots of bad guys and solve a few puzzles. Originality seems to be a secondary requirement. The game borrows teleporters, switches, lifts etc from other genres. This isn't necessarily a bad thing – all these factors add to the gameplay – but we've seen it all before.

To take the game into the realms of 'next generation' software, the developers, Origin, have included huge explosions and a thumping soundtrack – not enough to hide what is principally an old-school game with knobs on.

Nice touches include shooting oil barrels to take out nearby baddies (an opportunity for blood-lust to be satisfied by a mass of flaming corpses); robot sentries that set off alarms on your discovery; and collapsing platforms to jump over. But the game's clumsy movements occasionally get in the way of potentially exciting gameplay.

With more PC games adopting the 'Doom-clone equals best-seller' fantasy, Crusader could mark a welcome respite.











Most objects explode once you've filled them with enough lead (left, top and bottom). The action is often insanely hectic (bottom right)

Total NBA

Sony's first entry into the world of basketball simulations is a graphical tour de force which promises an equally high standard of playability

Format:	**PlayStation**
Publisher:	**SCE**
Developer:	**In-house**
Release date:	**January**
Origin:	**UK**

Total NBA is the first game to be produced at Sony's own London development studio, so it's an important release for a company who, until now, have been criticised for a lack of in-house development.

By releasing a basketball sim they haven't made things easy. Most types of sports sim (notably soccer, tennis and American football), have a couple of benchmark titles and room in the market for several pretenders. Basketball, however, usually supports one supreme title and little else. Acclaim's newly released *NBA Jam: Tournament Edition* currently holds the basketball crown on the PlayStation and is a respected game. It'll take a special title to usurp it.

Characteristically, Sony have not taken the challenge lightly. In Edge 26, Phil Harrison referred to *Total NBA* as a, 'tour de force' and boasted about 'the sheer volume of polygons' and 'the speed and smoothness of the motion captured animations'. These were not hollow words: *Total NBA* looks stunning. Each player is made from 500 textured/gourad-shaded polygons, rendered at 30fps. These impressive statistics allow the players to retain an unparalleled degree of realism as they race down the court, pass and even slam-dunk without a polygon glitch in sight. Jules Burt, producer and senior software engineer for SCE Europe, recently highlighted the extent of *Total NBA*'s graphical excellence to Edge with a *Tekken* analogy: '*Tekken* has two full hierarchy bodies (3D skeletons) driven by motion capture and placed in limited backgrounds. We've managed to get ten of those on the screen, within a complex environment.' Added to this, the court alone is made up of 2,500 polygons, so the engine actually shifts 225,000 polys per second.

Other features include the now obligatory abundance of selectable



Total NBA **promises to be the basketball sim by which all others are judged. From the early versions on display, this pledge may be true**







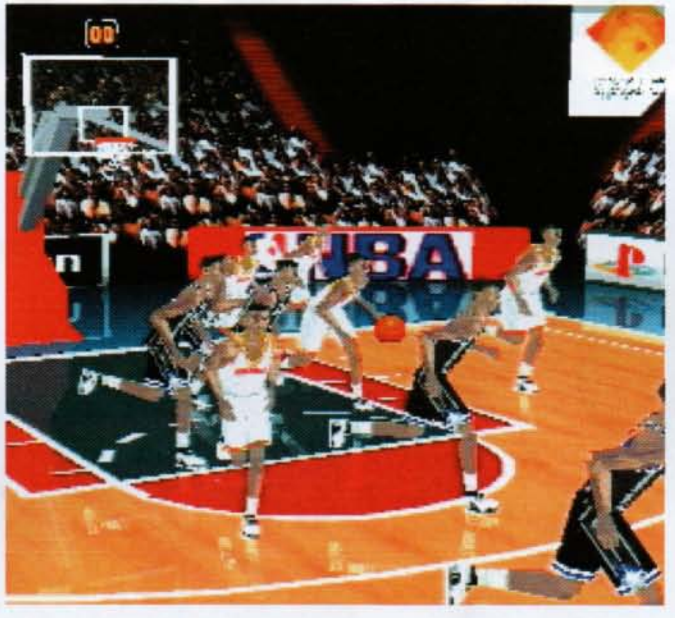
With 225,000 polygons a second and motion captured animation, *Total NBA* promises life-like players and unparalleled fluidity of movement





A successful slam dunk (top) causes a defender to fall in the chaos





'The reflections of the static environment – features like stands, lights [bottom right], surround ad, boards, etc – are actually part of the court model. The polygons drawn are semi-transparent and, in fact, drawn on top of the floor. The reflections of the players' legs [centre] are calculated live by reversing the 3D polygons of the lower limbs of the players and drawing them on the court surface. These are real reflections' – Jules Burt, producer for SCE Europe.

camera angles and an in-game camera that pans and zooms in on the action, providing the best view of the current action. There are some great lighting effects too, including reflections of the players on the highly polished court surface and spot lights that produce glare.

Total NBA lets players tweak the rules of the game to create their own balance between simulation and arcade game.

According to Jules Burt, *Total NBA*'s designers had three objectives: exhibit the PlayStation's power, use motion capture to maximise realism, and set a new standard for sports sims. They may have succeeded on all counts.






Total NBA **offers numerous camera angles in which to view the game. Whichever you choose, the camera will automatically zoom in on concentrated areas of action and out when players are further apart**

Don't pla

Play 3DO

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AM3



AM3's *Sega Rally* is set to shift the Saturn's stature up a gear when it is unveiled at the end of the year. **Edge** meets its creators and test drives its arcade successor





Manx T.T. Super Bike **(above) is the latest arcade racer from AM3 (HQ, top) who also created the hugely successful *Sega Rally* coin-op – now on its way to the Saturn**

Format: **Saturn**
Publisher: **Sega**
Developer: **AM3**
Release date: **December**

Sitting in the consumer department of Sega, near Haneda airport in Tokyo, are Atuhiko Nakamura and Tetsuya Mizuguchi – both key figures in the development of the Saturn conversion of *Sega Rally*. Nakamura is *Sega Rally's* director, and Mizuguchi is producer of both the Saturn and arcade versions of the cross-country racer.

At this stage the game is approaching 60% complete – there is no background music and a distinct absence of a co-pilot's voice to guide players around the winding tracks – and yet it is already a convincing replica of a state-of-the-art coin-op. The background graphics are almost finished and all four tracks have been implemented to an impressive level of accuracy. Only the difficulty setting and the finer side of the car's handling remain – elements that usually take time to be perfected.

There's no doubt that *Sega Rally*, along with *Virtua Fighter 2*, authenticates the Saturn's much underrated 3D abilities – it's easily the most impressive example yet of the Saturn's abilities. The game runs at 30fps (instead of *Daytona*'s 20-25fps), there's little visible scenery update, and the programmers have even managed a full screen display, which is something they couldn't manage in the NTSC version of *Daytona*. In every respect, *Sega Rally* is as well crafted and impressive as *Ridge Racer* on the PlayStation – as reassuring for Sega as it is for Saturn owners.











The development of the *Sega Rally* coin-op took ten months and included a trip to the Indonesian Rally where project leader Tesuya Mizuguchi (top) met famous drivers

There's no doubt that *Sega Rally,* authenticates the Saturn's much underrated 3D. It's easily the most impressive example yet of the Saturn's abilities



Edge spoke to both men shortly before the JAMMA show where a more complete version of the game was shown.

Edge There are huge differences between the Saturn and Model 2 architecture. How do you convert such a processor-intensive game to a less powerful machine?

AN It's a little bit technical to explain, but essentially we're making a new game using the same data. The program itself is completely different – because of the differences between the Model 2's and the Saturn's screen refresh rate we had to re-program the game from scratch.

TM It's not possible to make a direct conversion. First, the number of polygons used is different on both versions. Moreover, the polygon textures are very different. The Model 2 uses some monochrome texturing while the Saturn uses full-colour textures. Because the Saturn version displays fewer polygons, we needed to use special techniques to create the impression of 3D.

Edge Will the Saturn version of the game replicate the arcade version? If no, what are you going to change?

AN Generally speaking, it will be very similar. The game will include an arcade mode identical to the arcade version.

Continued next page

However, for obvious technical reasons the conversion cannot be identical. The arcade version used a Model 2 board and the Saturn version's resolution is, of course, lower, but fans of the arcade game will experience exactly the same sensation of driving when playing the Saturn version. We are also making an original mode for the Saturn game which lets you customise certain aspects of the car including the suspension, traction and transmission. These aspects directly affect the handling of the cars.

TM Because the arcade *Sega Rally* was written specifically as an arcade game, we're now working in co-operation with the consumer team and realising those features that will interest the home player. For the home version we are considering these more precisely, like tyre settings for example. In essence, however, we both really like cars and want to make a game with as much realism as possible which, of course, is easily understandable by the player. But we also want to make a game that's realistic for the mainstream as well as satisfying die-hard fanatics [known as 'otaku' in Japan]. For example, in order to make the 'time attack mode' more interesting we are going to include a special feature, but we are currently applying for the patent so we can't talk about it.

Another new point will be the 3D sound – we want the Saturn sound engine to be far superior. Of course, as with *Daytona*, it will be possible to use Sega's steering column rather than a joypad. We would also like to include a new car in the Saturn's original mode, and add another special stage – if we have time to make it, of course.



Fans of the arcade version will experience the same sensation of driving when playing the Saturn version. We are also making an original mode for the Saturn

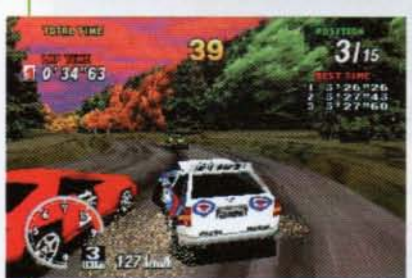


***Sega Rally* impresses most when the cars take off (approaching jump, top). Atuhiko Nakamura (above) is head of the consumer software team behind the Saturn conversion**









The tracks from top left, clockwise: Desert, Forest, Mountain and the glorious Lakeside

Edge Are you going to include different driving views in the Saturn version, such as inside the car, outside, from above etc?

AN The Saturn version will have the same number of views as in the arcade – two. The arcade mode will be exactly the same but we would like to add a supplementary view to the Saturn's original mode. The camera position would be higher, but nothing has been finalised yet. First we want to make a perfect conversion of the arcade game. Then we will make an original Saturn version with supplementary points and options. We could change many points in the conversion but we don't want to lose the arcade feeling.

Edge Racing games are often enhanced by a link-up facility. Will it be possible for two players to compete at once?

AN After finishing the arcade-perfect conversion we will consider it. In a few weeks we'll choose one of a few options –

split-screens, link cable etc – to implement. The main problem is that of processing power. With two players, the Saturn has to deal with twice as much data as before, meaning we may have a lower quality game, lower quality textures for example. It is not worth sacrificing quality just to make this sort of game

Edge How many polygons are needed for each car?

AN In comparison with the arcade, the number of polygons is lower. The arcade version, with a Model 2 board, has a more precise car with better details. Although the Model 2 is more powerful than the Saturn, the design techniques utilised are different, so ultimately the Saturn's cars are quite similar.

Edge Many games rely on the knowldge of the development teams. Are the teams for Saturn *Rally* and arcade *Rally* the same?

AN No, they are completely different, but Mr Mizuguchi is co-ordinating each team in the same way.

Edge In the present version, the cars seem very speedy and the stages are almost finished. In fact, the game seems almost complete. With the release being slated for December, what is left to do ?

TM The game may look almost finished, but we have many things to tweak, like the game settings for example.

Edge Is the game using the new OS system? [the SGL, Sega Graphics Library, that was developed by AM2 and allows for better 3D graphics on the Saturn]

TM Not at all. The OS was incomplete when we began the project. But even without the new OS we succeeded in



The coin-op's Model 2 graphics are much more detailed than in the Saturn version

To be honest, I really didn't believe we could make a conversion as good as this. The speed of the game is superb and I'm very satisfied

making a good conversion. We have some very good programmers in our team.

AN In particular the programmers have created some excellent clipping techniques – they are very precise and are more sophisticated than those in other driving games. You can notice this most when the car is moving extremely slowly – the update of the track is very precise.

Edge How many people are working in your team, and what experience do they have with racing games?

TM We have about six designers and programmers. One of the staff, Mr Hatori, did *Virtua-Racing Deluxe* on the Mega Drive. Personally I'm a supervisor and the only member of staff from the AM3 team.

AN When forming the Saturn development group we tried to employ a special team of programmers and designers specialised in car racing games.

Edge AM3 is getting a reputation for superb arcade games. What new projects do you have in the pipeline?

TM Well, we have *Manx T.T.*, which is based on the British race in the Isle of Mann [the team spent time out there gathering data for the game]. We've adopted the same control system as *Hang-On*, but placed the game in a new, ultra-realistic cabinet.

Edge With racing games in vogue, do you think *Sega Rally* has any competition?

TM Maybe *Ridge Racer Revolution* from Namco... until we see the finished *Sega*



The Saturn handles these high mountains on the third track surprisingly well

Continued next page

Rally in December we won't know, to be honest.

Edge Has the development schedule been slashed thanks to the knowledge gained from programming arcade *Sega Rally*?

TM We began in April this year, meaning this present conversion has taken only six months so far.

Edge What extra work has gone into the Saturn version to separate it from the arcade version?

TM For the arcade version we spent two weeks measuring the different parameters of the tracks. For the Saturn version we also made some effort to improve the game. We consulted Mr Fujimoto [a rally expert], to assist with the new game settings. He was a kind of adviser. We also met him in Indonesia during the 1995 Indonesian Rally last July. We spent three days studying the cars and the way they drove. We examined tyres and made tests of driving techniques.

AN We wanted to make a very realistic game. However, for increased speed and hence better gameplay we also wanted to avoid complicated settings. We spent a long time studying real cars – fans of rally cars will not be disappointed by the driving sensation. The drift will be very realistic.

Edge As the producer of the arcade version of *Sega Rally* what do you think of the conversion?

TM To be honest, I really didn't believe we could make a conversion as good as this (laughs). The speed of the game is superb and I'm very satisfied. We are also on time for the release date – with a December deadline, we've got the time to perfect it. I suppose it helps that our team is very confident – everything we've tried so far has worked (laughs).











The difference between the arcade and Saturn versions of *Sega Rally* are plain to see. On the left are the arcade graphics boasting a screen resolution of 496x384 and far more detail. The Saturn version runs at half the frame rate of its big brother (30fps) but still looks smooth

AM3 Gameography

July 1992	Wory o sagase	Variety
March 1993	Dark Age	Fighting
April 1993	Tittle Fight	Fighting sports game
September 1993	Sonic the Hedgehog	Action
February 1994	Jurassic Park	Shooting
March 1994	Dragon Ball Z	Fighting
April 1994	Star Wars	Shooting
	Hard Dunk	Sports
February 1995	Sega Rally Championship	Driving
May 1995	PakuPaku Animal	Puzzle

Format:	Arcade
Manufacturer:	Sega
Developer:	AM3
Release date:	Early '96

Although the 3D engine will no doubt provide a visual feast, it's *Manx TT*'s realistic gameplay that is likely to turn heads. Like on a real bike, the player's feet do not touch the ground when riding. In other words, body weight plays an important part in the handling of corners, creating an unparalleled driving sensation.

When **Edge** saw the game, the innovative cabinet design was finished but the game was far from complete. The final game may change considerably.

With an eight bike link-up and fantastic overall feel, *Manx TT* will surely be another design achievement for AM3.









***Manx TT* is based on the British race in the Isle of Mann. We've adopted the same system as *Hang-On*, but placed the game in a new, ultra-realisitic cabinet**

Tetsuya Mizuguchi, producer



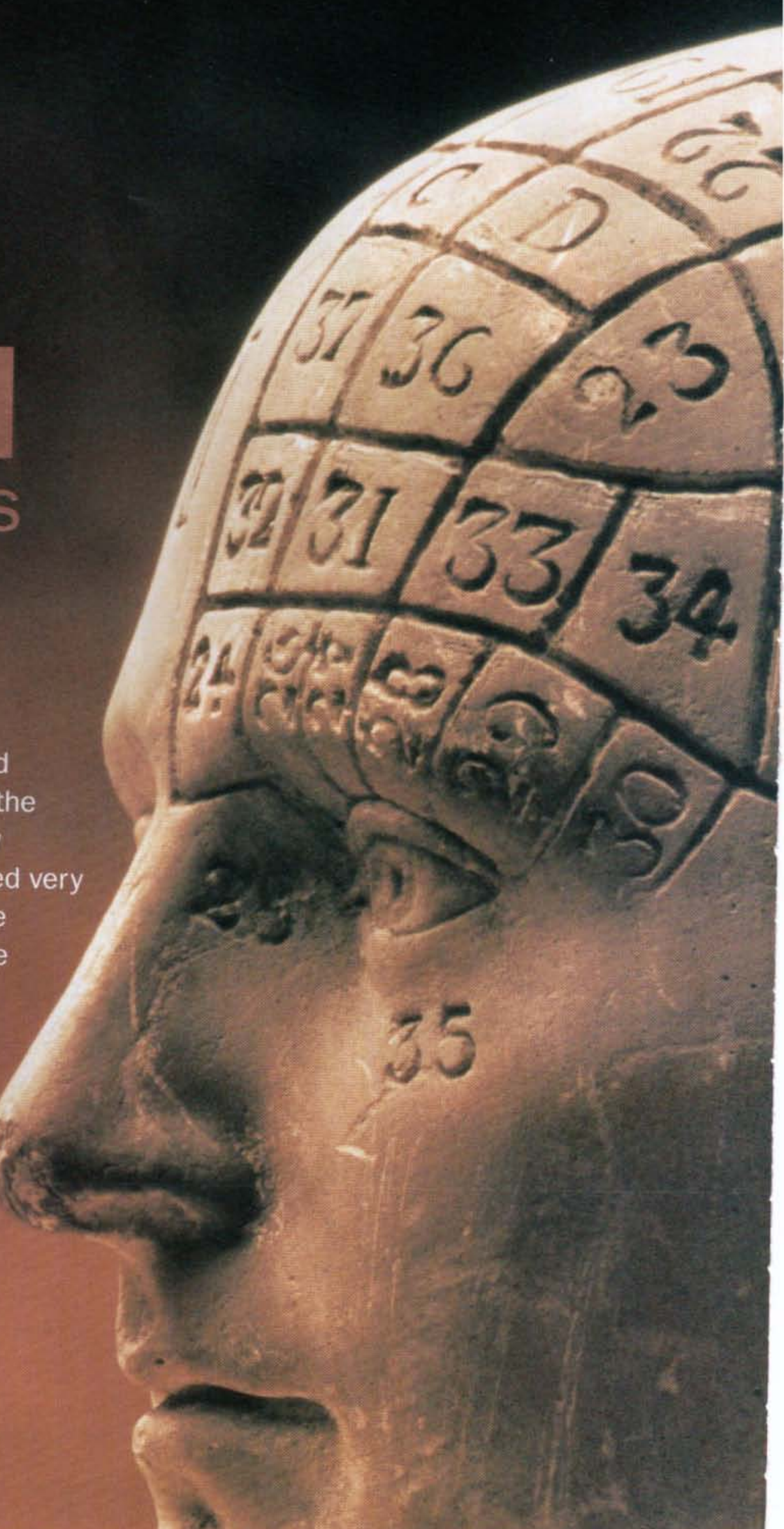




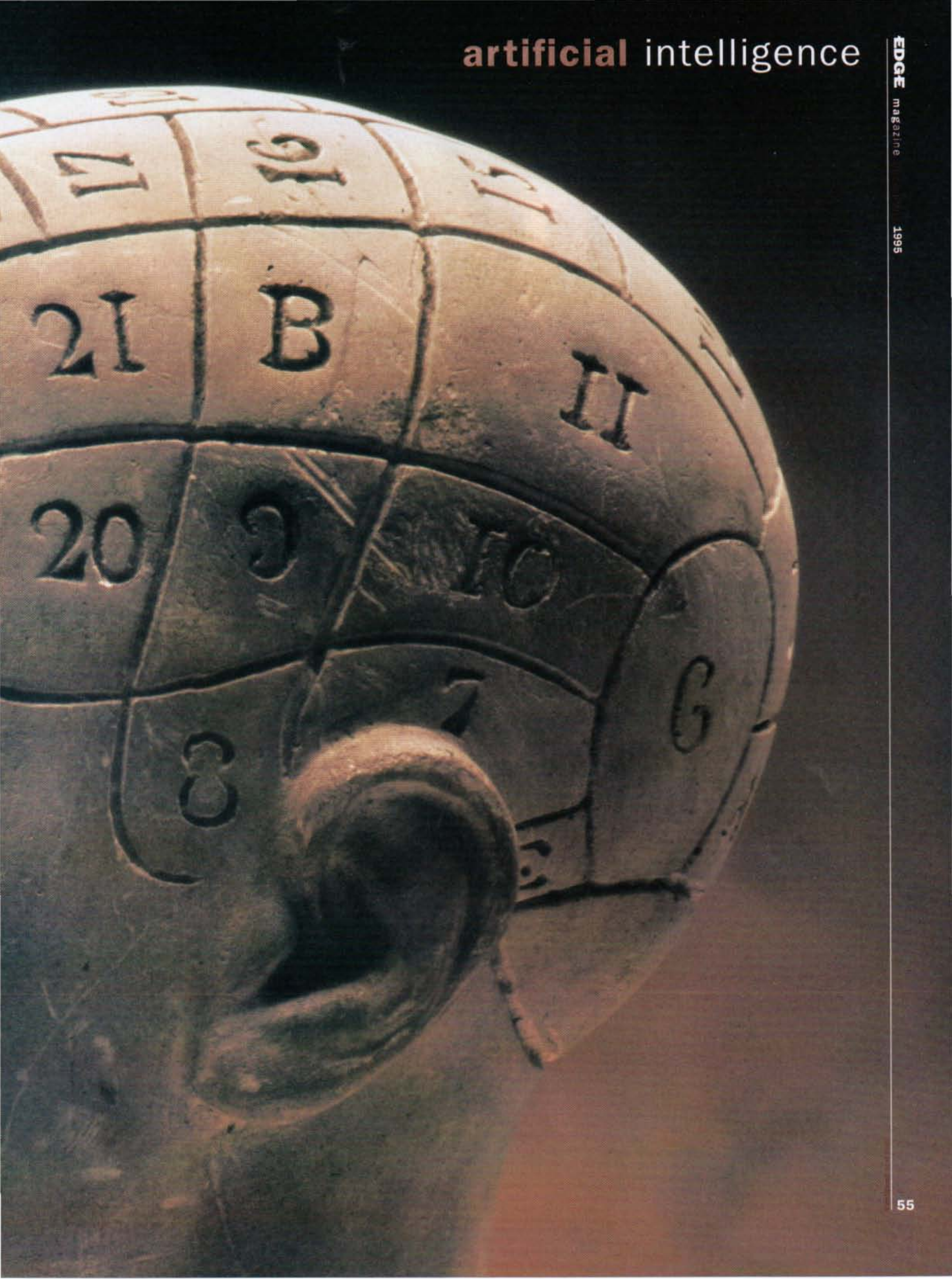
Just 20% complete, *Manx T.T.* is already emerging as a thoroughbred arcade racer. The game's producer, Tesuya Mizuguchi (top, seen at the recent JAMMA show), is also supervising the Saturn version of *Sega Rally*

Mind
Games

Whereas game graphics and sound continually improve, the way computers actually play against humans has changed very little. **Edge** ventures into the world of artificial intelligence to discover how developers are breeding games with minds of their own

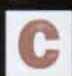


artificial intelligence



artificial intelligence

Checkmates



Chess games have been the central focus of AI researchers' interests for decades. Early chess (mid-1950s) programs were created by traditional AI scholars as basic projects. They played relatively poorly. Once functional AI had been attempted, many began to work on the problem in earnest.

In 1967 an MIT programmer named Richard Greenblat created MacHack, a program that enabled the computer to choose its moves from a select list. In particular situations these moves looked intelligent. The program was far superior to anything that had been attempted previously, and it introduced the concept of chess computers to a whole new group of enthusiasts.

In the early '70s, the Association of Computing Machinery (ACM) added to the group's yearly gatherings a tournament between chess programs. After this event, rewards for innovative chess programs became mostly financial. In 1968, David Levy issued the first major computer chess challenge, betting that no computer could beat him in chess for the next 10 years. No digital challenger even came close.

Soon others got in on the act with their own rewards. Edward Fredkin, an MIT professor, offered a series of three prizes for beating him, one worth as much as $100,000. Belle, a chess computer capable of processing 150,000 moves per second, won twice in 1983. Deep Thought, which interprets 700,000 moves per second, also beat him.

The Chang-ki Wei-ch'i Educational Foundation has offered $1.6 million to the first AI program to defeat a master of Go, another traditional strategy game.



Chess games were responsible for the first ever artificial intelligence engines



The term artificial intelligence may conjure up images of 2001's computer, HAL, or William Gibson's Wintermute, but the reality is quite different. Marvin Minsky of the Massachussets Institute of Technology (MIT) provides the best definition in Margaret Boden's book, Artificial Intelligence and Natural Man, calling it 'the science of making machines do things that would require intelligence if done by men.' If you've ever played a one-player game involving defeating enemies, you've faced an AI, however primitive.

The origins of AI closely parallel the development of the digital computer itself. Names like Alan Turing and John von Neumann, early computer pioneers, also developed early theories of AI. It was Turing who developed what is considered the seminal test for a true artificial intelligence. The Turing Test involves a human conversing via tele-type with a computer and a human. If he or she cannot tell which is the computer and which is the human, we can say that the computer is, for all practical purposes, truly intelligent. Researchers have constantly explored many avenues in the quest to build an intelligent machine. Some favour simulating a neural network on a computer. Others have tried creating programs that approach intelligence symbolically or by following a simple set of pre-made rules. Despite big promises (researchers in the 1950s predicted a machine that would pass the Turing Test by 1960), the quest for AI has made, at best, limited progress toward the ultimate goal of creating a true, thinking machine.

Consider the difficulty inherent in a computer understanding something as simple for a human as the different connotations of the word 'take.' The code needed for a computer to understand the differences between the phrases 'take a bath, take a hike, take some money,' and 'don't take that from him,' is not trivial, to say nothing of the many other ambiguous words and phrases in the English language. In order to make computers seem intelligent to an average observer, massive amounts of data are needed – and even data entry can be a problem. Structural decisions need to be made. Should information be just introduced into the program, or should the computer be designed to learn for itself?

AI's greatest successes are not in attempting to make a computer sufficiently intelligent to function in the real world, but rather in total domination of a single problem, whether it's alphanumeric character recognition – without AI, we'd have no OCR (optical character recognition); a rules-based 'expert system' that can answer questions or solve problems involving a specific topic, like how to diagnose and treat a blood disease or fix a car; or total domination of a limited virtual world with pre-set boundaries, like, for example, a game.

Turing developed a chess-playing algorithm that, typically, he used without a computer. Subsequently, chess has continued to be a benchmark

The origins of AI closely parallel the development of the digital computer itself

AI exercise (see sidebar, this page). But the first purely electronic game that most people associate with AI is *Adventure*, and it's more famous offspring, *Zork*.

Although the AI of the game wasn't incredibly advanced – 'we knew our environment and created it, instead of trying to do something really complicated like teaching a robot to climb stairs,' says co-author Dave Lebling – the game's sentence parser, which enabled the user to interact with the game in plain English sentences instead of two-word commands, literally stunned the world. Here was a game that interacted with you nearly as well as a human.

Covered prominently in the popular press, *Zork* brought electronic gaming out of university campuses and into the public consciousness. In fact, games are one of the few means by which AI has made it out of the lab at all. 'It's probably been the most lucrative use for AI,' says Lebling. 'But I don't think what is being done in

The Genesis of AI: god games

To create a believable universe in which human-like characters walk around, react to circumstances around them, and, in a sense, have purpose, requires a highly impressive AI engine.

Most 'god games', like *Populous* and *Sim City* and *Megalomania*, enable players to interact with a computer world that carries without the player's intervention. 'We're trying to simulate what a player would do without making it seem so esoteric that you can't predict the future,' says Peter Molyneux, founder of Bullfrog. 'For example, in *Dungeon Keeper*, each character possesses the major senses of a normal player. So, each of these AI characters can see, hear, and even smell. They realise when they are in danger or threat, and they feel frightened. 'By combining those attributes you can watch a character walk around the dungeon and understand why he took a left turn – because the right hand corridor is dark and he's just been beaten up and is afraid to get beaten up again. That's the sort of artificial intelligence we're putting in now – where you can appreciate and understand the problems this character has throughout the game.'

This will make a huge difference in the way human players interact with games of the future. Eventually, these games may become so realistic in their response that to some degree they pass the Turing test. If, as a gamer, you can't tell whether the nonplayer characters in a game are played by humans or by the computer, then one of the biggest goals of videogaming, the suspension of disbelief, will have been met, not through the use of more realistic graphics, sound, or control, but through the creation of more realistic personalities and lifeforms.



Peter Molyneux's Bullfrog has created some of the finest AI games in videogames history

games is close to the state-of-the-art in AI. Developers have taken the state-of-the-art and simplified it to what you can do rapidly in a game and what you can do feasibly in a real environment. Videogames are kind of the domestication of academic AI.'

As with any other form of computer logic, AI fundamentally breaks down to a series of mathematical computations. Each decision the computer makes is based on the current value of a given set of registers. The tricky part comes in deciding how and when to look at those registers, how they interact with each other, what happens when they reach a certain value, and keeping track of the entire mess while still running the rest of the program (all of the video, sound, and input devices) without ruining or altering the performance of the overall product.



Bullfrog's *Dungeon Keeper* has computer-characters who can see, hear and smell

In strategy games or RPGs, registers take the form of different human-like characteristics, like fear, a value that will determine how likely the foe is to run from a battle; aggression, how likely a foe is to attack without provocation; and even loyalty, how likely an ally is to put him or herself into danger for the sake of another.

Continued next page

Civilised AI: strategy games

Arcade and strategy games use very different kinds of AI. Unlike the fast-action decisions necessary for an arcade game, most strategy titles offer plenty of time for the computer to contemplate its possible moves. Unfortunately, all the time in the world won't help a 'stupid' game beat its human adversary. To create a satisfactory challenge, the programmer needs to create either an AI algorithm smart enough to understand every nuance of the game or a flexible set of rules giving the computer an advantage over its opponents.

Famous for games like *Civilisation* and *Railroad Tycoon* (two games considered to be among the best in AI), strategy veteran Sid Meier explains how he creates computer opponents worth playing against. 'In *Civilisation* players face other groups who compete directly. The game designer starts playing the game by himself, then moves on to figure out what works – and what works best – and then program those things into the AI. It's an evolutionary process.' In other words, most strategy game designers have to use the same process of first deciding a strategy on their own (on paper) that works well for a human player. They must then write an algorithm that enables the computer to emulate that winning playing style. In a game where you must play against other AI-controlled teams, the programmer must also figure out a way to make this whole process seem human-like in its execution.



Sid Meier's *Civilisation* uses strategies theorised on paper

'*Civilisation* is somewhat unique in that it creates a peer situation,' explains Meier. 'You have a civilisation which you're in control of, and the computer control other civilisations with essentially the same abilities and resources of yours. It's like playing a multiplayer game, only the computer has taken over some of the other positions. To set the difficulty level, we can handicap the AI so it requires more production points to create structures than the player. Or on the higher levels we can set it to where it takes less. In this way, we can take one AI routine and make it more or less effective, depending on the player's needs.'

artificial intelligence

Some RPGs also need to keep track of how a given NPC (nonplaying character) feels about the player, which is also handled by a set of registers that mathematically represent how likely that character is to help out, based on past interaction with the character. When the player angers the character in question, a specific value for reaction is lowered by the amount appropriate for the negative action – a few points for being overly curious, many points for killing his mother.

The next time the player comes in contact with this character, the chance that the computer will help the player out is modified by the new reaction value, and a decision is made. In this way, the computer is still able to represent the somewhat random actions of humans while maintaining a tie with actions of the past – a character you have made angry may still help you, but is less likely to do so than if you had been kind.

Lifelike personalities can be emulated by careful determination of what actions affect each character – a gruff old man may appreciate you being belligerent to him, whereas being overly kind may make him think of you as a sycophant. The more values there are to be checked, the more lifelike and three-dimensional an artificial lifeform becomes. Unfortunately, continually checking all of these values can slow gameplay to a crawl, not to mention the amount of time it takes in development. Unlike AI projects in research centres and universities, the goal of these games is not to fool people into thinking they are dealing with a real person, but to create a more realistic set of characters with which players can interact.

Arcade games like *Doom* use a much simpler system of intelligence, but one that also attempts to mirror human response. Monsters that have the character in their field of view will rush forward (taking the shortest path available between them and their opponent) and attack using any weapons they have available. To keep this from breaking down into a large mass of demons flooding through the caverns following you wherever you go, the programmers have given the beasts the equivalent of sight and hearing. If you move into an area from behind the field of view of the monsters contained therein, the registers that determine whether or not the creatures attack remain off. In terms of enemies' hearing capabilities, the game determines the distance a given beast can hear, and any gunshots or screams that take place within that field will force the creature into attack mode. The AI in

Artificial Turf: sports

Unlike creating attack patterns for a troll, intelligence for an alien, or troop movement for an army, sports game developers must deal with an audience which knows exactly how the players in the game should respond to a given situation. Furthermore, most sports games require the computer to make decisions in real-time, while interacting with stimuli from several other on-screen AI players.

'In order to make a game realistic, we tailor each team to a real NFL franchise,' explains Marsh Gardiner, assistant producer on *John Madden Football '96*. 'The Bills have to be likely to call a hurry-up offense, certain teams will pass more, certain teams will run more, and some teams will run a 4-3 defence while some are more likely to choose 3-4,' he added.



Sports sims simply pick a play to suit the situation

'Individual AI players follow a basic playbook. When you call a play, you're actually calling up a set of moves for each player to follow. It's tricky because there's so many situations you have to be ready for. During the play, the defence reacts to whether the ball is pitched or not, and then certain players will pursue as is appropriate for that play. Receivers run routes, and if they haven't already received a pass, they will move about randomly trying to get open. It works like the real thing.

'Our latest and greatest innovation is to have the computer learn. Actually this is proving a little difficult because the computer can learn pretty fast and pretty well, so I think we're going to have to worry about the game being too hard. My ultimate dream is to have the game look just like the sport. I find myself going to football games and thinking 'Wow! Ours looks just like that,' or, 'Hmm there's something we're going to have to change.''

I.Q. test: action games

In most action games, opponent movement is relatively easy to handle – the computer has a restrictive set of rules and boundaries. But even though the algorithms may be easier to create than those in a role-playing game, developers must spend hundreds of hours achieving a solid play-engine to deliver competition that is neither too easy nor too difficult.

Joanna Alexander, co-founder of Zombie, explains the problem: 'It's the balance that's tricky. The actual decisions of how to program the artificial intelligence is not all that difficult. You handle that by play-testing a lot. You'll find it is something missing in a lot of both AI games and standard games, where there are divisions of speed and reactions. I don't think there's enough time put into games at the play-testing level and it shows in the end result of many products. You can have the greatest idea in the world, but if the game timing is wrong, your idea can be completely lost.'



Beat 'em ups such as *Tekken* use complex attack strategies

Game balance is a huge problem with action game AI. Unlike a chess or an RPG title, there is no absolute way of testing whether the AI will provide a challenge for players without being so good that the game is frustrating. Other than looking for bugs, this is the main job of the playtester. They log in huge hour counts playing games, looking to see if computer opponents are too easy to beat, too difficult to beat, or if they have certain repeated patterns that can be learned.

When the testers find a problem, minor adjustments are made to the game's algorithm to fix it. Now game development is starting to cost millions, this is even more important.


***Populous II* took the god sim and extended it into a slicker, more enjoyable game**

Descent offers a few more tricks, like enemies that are smart enough to run when they've taken too much damage, and opponents who are smart enough to hide around corners to set up ambushes.

Military sims, such as flight simulators or tank games, use sophisticated systems to prevent the computer from knowing too much, and from being too predictable. If the computer knows the absolute best strategy to win every given conflict, and it follows that strategy flawlessly, human players will at first find the computer is impossible to beat (not fun), but will eventually find the counter strategy to the computer's tactics and thus will win every time (also not fun). The answer is to create an AI that is limited in its decision making to information that lies directly around it, just like a human opponent. Even though the computer knows that you are hiding around the next hill, the AI for an individual tank must not be allowed to acknowledge your presence until you are within visual range, show up on radar, or make some sort of signal that you are there. After this, the computer must access some sort of random movement and combat. Humans are so hard to beat in long runs of any game (including war) because they are capable of making decisions that aren't necessarily wise. By adding these flights of fancy to a simulation, computers are more fun to play against for beginners because they are capable of making mistakes, and more fun for veterans because they are harder to predict. With artificial intelligence, the beginnings of simulating human behaviour is always adding the random element.

The sports sim uses an interesting set of conditions that let the computer choose from a list of different actions depending on outside stimulus. In football, for example, the computer must first decide what tactic to adopt. If it's a corner, the computer could choose for a long cross over the players, or a short ball to set up a one-two. If the previous shot was a long kick over the defenders, the computer may decide to go it alone. On a very basic level, all the computer is doing here is running through an extremely long set of 'if-then' statements tailored to make the same sort of decisions as the coach of that particular team. Once on the field, each of the computer players begins by following the basic pattern in the play that was called, with additional instructions to react to circumstances around them as they arise. A striker will follow his pre-defined pattern, and then try to stay open by avoiding any defenders. A defender will stay back and try to stop solo runs, but may leave short ones to midfield. As in role-playing games, several statistic registers are often used to determine how tough a player is, how fast they can get through holes, and how aggressive they are on defence.

Artificial intelligence is also capable of creating new game genres that players have never experienced. Where better and faster video brought us the interactive movie – a class of game that offers fantastic images with very little emphasis on gameplay, AI has the potential to create games that are not only fully interactive with the player, but which mould themselves to that person's wants and needs. One example of research being done in this direction is TechMagic's *Dogz: Your Computer Pet*. *Dogz* gives the user a pet that acts and responds just as a real animal would, within the confines of a computer world. As with an RPG, *Dogz* is actually using a complex set of registers to compute how the dog will react in any given situation, combined with a random factor that ensures the animal doesn't follow static patterns. There's more here than just standard screen saver behaviour though, the development team has given the user the ability to reward the virtual pet with treats. The dog eventually makes connections between performing tricks and getting treats, and becomes more likely to perform those acts it knows its master appreciates. Andrew Mayer, the director on the project, explains: 'It's real AI. If you stop giving treats for certain tricks, then the dog will start trying to do other things

Brave new worlds: RPGs

Creating artificial intelligence for a role-playing world is a unique development problem. This is due to the huge number of different locations, people, and objects that can be encountered during a play session. In Bethesda's new RPG, *Daggerfall*, the computer must keep track of the location of hundreds of nonplayer characters (NPCs) and their attitude toward the player – a value that always changes, not only as the player interacts with them, but also as they interact with friends, enemies, and coworkers.

'Just getting the critters to move intelligently through a completely 3D world can make for tough problems,' says Ted Peterson, *Daggerfall*'s producer. 'In a shooter or action game, you make a list of all the possible opponents because that's all you're likely to face. You figure out their movement, as far as how smart they are in finding opponents, tracking them down, moving in for the attack, and reacting to being attacked. The AI may have to worry about whether the enemy flees or begs for his life, but the possibility of an enemy spreading lies about you to your friends, or working to become King of Spoleto, does not exist because this is an action game.


RPGs require character independence for realism

'In an RPG like *Daggerfall*, we started macrocosmically. Combat is certainly a part of the RPG experience, but our first priority was to create a dynamic world that changed and developed, and that the player could influence with his or her own actions. We created a political faction system and set up the rules by which it operated, as well as the effects these changes would have in the game world. Then we moved to the individual people and designed their AI characters more similarly to shoot 'em ups – only with additional options and rules. In shoot 'em ups, you can assume that every opponent has a ferocity of 100%. In RPGs you can't.'

artificial intelligence

to get treats.' The game will also include mood swings for the dogs, which make them more or less likely to want to play certain games on certain days.

'There are waveforms in the programming that we poll to get moods… the dog can be happy one day, grumpy the next, and is affected, in part, by events around them.' While this is not a game in the traditional sense, the idea behind the program opens up all sorts of possibilities for new game-like titles. Imagine a version of *SimCity* where each citizen affected by poor work conditions is more likely to riot or commit crimes or has an urge to personally run for mayor, or even competes with others for contracts on public buildings.

So where does the future lie? In spite of terrific advances in processor speed, graphics and sound in the past few years, game AI seems, for the most part, locked in place. Bullfrog's Peter Molyneux explains part of the problem. 'It's an incredibly tricky area. If you look at all the developments in the computer game industry in the last three to five years, they've been mainly in the graphic area. We've got some amazing texture-mapping routines and some awesome Gouraud shading, they're extremely fast and that's great, but what are we going to fill those worlds with?

'We can now create cities that you can fly around, we can create worlds that you can fly over, we can create offices and houses that you can walk through. But if we're just going to have cardboard cut-out characters that you are choreographed around – in this world that gives you complete freedom of movement – they're essentially going to be boring.'

Molyneux does, however, offer a solution. 'So it's the advancement of artificial intelligence that's going to be the issue in the next three to five years. That's a huge problem, much more than vectors and 3D stuff. With those things, you've got a flagpole that you're going to head for and you can say, 'OK, we want this resolution of graphics running at this frame rate,' but with AI there's no flagpole. There's no ultimate objective to head for. You need to get people believing that they're walking through a real world, or suspend their disbelief. AI's most difficult challenge is making people believe these are real characters like a kid believes in cartoon characters, and that is extremely hard to do.' To this end, many companies, including Bullfrog, are investing heavily in game AI research in order to deliver what may very well be the next great age of videogaming. 'The area that will take a lot more work, and is most interesting, is having good intelligent opponents and collaborators in a game,' says Dave Lebling. 'If you're playing a *BattleTech* type of game in which you've got a bunch of 'mechs going after somebody, it's all very good if you've got a bunch of friends who can play the 'mechs on your team and the other team. But what would be even better is if you could play as the leader of the group and give orders, and have computer team mates carry them out in a reasonably intelligent way.'

AI is capable of creating new game genres that players have never experienced

Even as on-line services offer games that are faster and cheaper to play, there must come the realisation that there will always be times when players will be alone with their computers. If no one has spent any time trying to create opponents that will give them a believable challenge, then all of the forward progress in creating more realistic fantasies will have been wasted. There is an entirely new 'species' of game waiting for computers to perform human-like functions that have been previously considered impossible. Imagine an RPG where all NPCs converse so realistically that you cannot tell them from real humans; space combat opponents who feel anger, sadness, and fear at the loss of a comrade; a sports game in which the players think and react like the human players they represent; games that can tailor themselves to be more entertaining just by monitoring your style of play. The future of gaming lies in creating worlds where the player is one of many intelligences, not just the greatest.

Auto pilots: flight sims

In flight simulations, developers create enemies who fight back against humans as if they were real people. This means developers spend a great deal of time learning how humans fly, how they fight, and what forces they can withstand and still be able to perform their basic manoeuvres. For example, if a computer plane is in a dogfight, and the quickest way for it to attack the player is by dropping into an inverted 9G turn, the AI needs to know that this movement will disable the pilot, even if the aircraft itself is capable of the motion.

Chris Tector, producer of Interactive Magic's *Star Rangers*, explains: 'We started by reading books on flight and tactics, since we're mostly doing a flight-oriented game. We tried to create some notation to figure out what the bad guys should do.' Once a language has been created, designers determine exactly how a given spacecraft would use its armament and speed in real combat.



Ex-test pilot, Chuck Yeager, assisted the design team with EA's flight sim

Often, in the case of more realistic flight sims, military pilots are called in to explain to programmers the flight tactics used in combat. In *Chuck Yeager's Air Combat* by EA, the celebrated air warrior actually detailed entire missions that he had flown, and the design team had the enemies fly and react just as those craft did. By using set patterns of AI like this, the team was able to create flight experiences that would mirror Yeager's own if the player reacted just like the pilot, but would offer a realistic fight even if the player tried to do something different.

Combat simulators receive more research attention than any other form of game AI, due mostly to huge projects run by governmental agencies in an attempt to create more realistic pilot training situations.

Loaded

Format:	PlayStation
Publisher:	Gremlin
Developer:	In-house
Price:	£45
Release:	November











The outdoor levels have the best-looking scenery (top). A worm hole leading to a new section (bottom)

Over the past year, a river of *Doom*-influenced games have flooded the games world. *Loaded*, the new title from Gremlin, may just reverse the trend.

There is nothing original about *Loaded*, it's just Gremlin have taken their inspiration from a different place – *Gauntlet*. The setting has changed – we're now controlling mercenaries escaping from a futuristic prison, rather than elves and swordsmen roaming a middle earth scenario – but the top-down perspective, swarming enemies and entertaining multi-player options are all here.

Does this makes *Loaded* a huge step backwards? *Doom*, after all, is an extension of the aged maze shoot 'em up genre that *Gauntlet* created. So why should a developer like Gremlin look to the past for ideas? If the result is as fun to play and as gorgeous to look at as *Loaded*, why not.

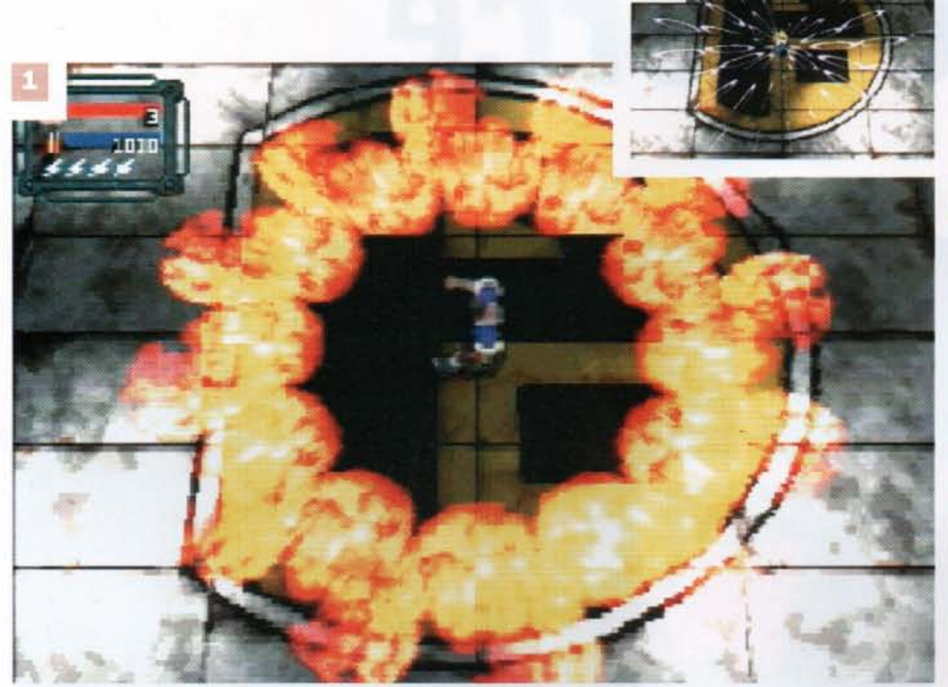
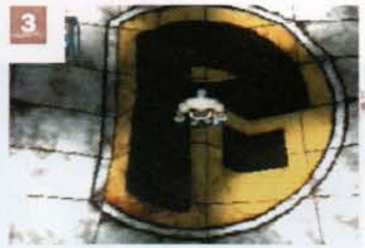
Comparisons with *Doom* are not entirely out of place. Loaded has the same insanely violent atmosphere as the id classic, providing a similar buzz as you charge down corridors blasting anything, moving or not. There's also the similar gore fixation – the enemies' death animations are satisfyingly gruesome, with your foes ending up as anything from bullet-addled bloody pulps to scorched heaps of ash.



The texture-mapped scenery allows for gorgeous detail and interactive lighting effects. Multi-player potential allows for enhanced playability

Many of *Loaded*'s objects are destroyable, exploding with a psychedelic display of smoke and light. Furthermore, the enemies seem to be reasonably intelligent – in the middle of a gun fight they'll often run for cover or just run away, rather than mindlessly charging at you.

In terms of visual style, *Loaded* probably owes more to The Bitmap Brothers' excellent blaster, *Chaos Engine*, than to *Gauntlet*, displaying a grungey, rusty feel to the play environment and giving you a selection of highly stylised characters to choose from. *Loaded* offers six decidedly eccentric reprobates, including Mamma – a weird over-sized baby, and Butch – a flame-thrower-touting transvestite. Unfortunately, they've also included the ubiquitous, and rather sad,


Each player has their own 'smart bomb' move that tends to cause havoc: 1 Butch fires a circle of flames. 2 Vox kills all with streams of light. 3 Mamma's shock wave ripple is easily the most impressive effect in the game. 4 Cap'n'Hands emits a deadly red haze

busty blonde in stockings and suspenders. The characters each carry a different weapon to power up. Butch's flame flower, for example, upgrades from a cigarette lighter to an immensely powerful incendiary weapon. All weapons look wonderful when fired – you even get flash back and steam coming off the walls.

The characters also have one special weapon each. Again, these are incredibly impressive, but essentially they're variations on the smart bomb.

The locations you play through are atmospherically dark and dank – it's all grimy stainless steel and claustrophobic corridors. However, what really makes *Loaded* stand out is the quality of the pyrotechnics. The huge explosions, gun fire and neon lights that line the walls all combine to constantly dazzle the player with fluorescent colours. The effect is mesmerising. During gun fights there are so many stunning, technicolour detonations you can lose sight of everything in the immediate vicinity. Surprisingly this doesn't get annoying – standing still to examine the extent of the carnage just adds to the aura.

There are a few problems though. On occasions, mostly in the midst of gunfights, the frame rate slows down and enemy sprites start to flicker. The map display at the top of the screen is too small and barely visible when placed above certain floor patterns, and the similar locations and repetitive gameplay may bore players seeking more variety. However, these flaws should not detract from what is otherwise a beautifully-constructed game.

Surely the 'release a Doom clone then wait for the money to pour in' days are coming to an end. Developers need to diversify to prevent formula fatigue, and if that means rediscovering old styles, so be it. *Loaded* is proof that state of the art visuals can revitalise evn the crustiest of genres, for which Gremlin should be commended.

Edge rating: **Eight** out of **ten**





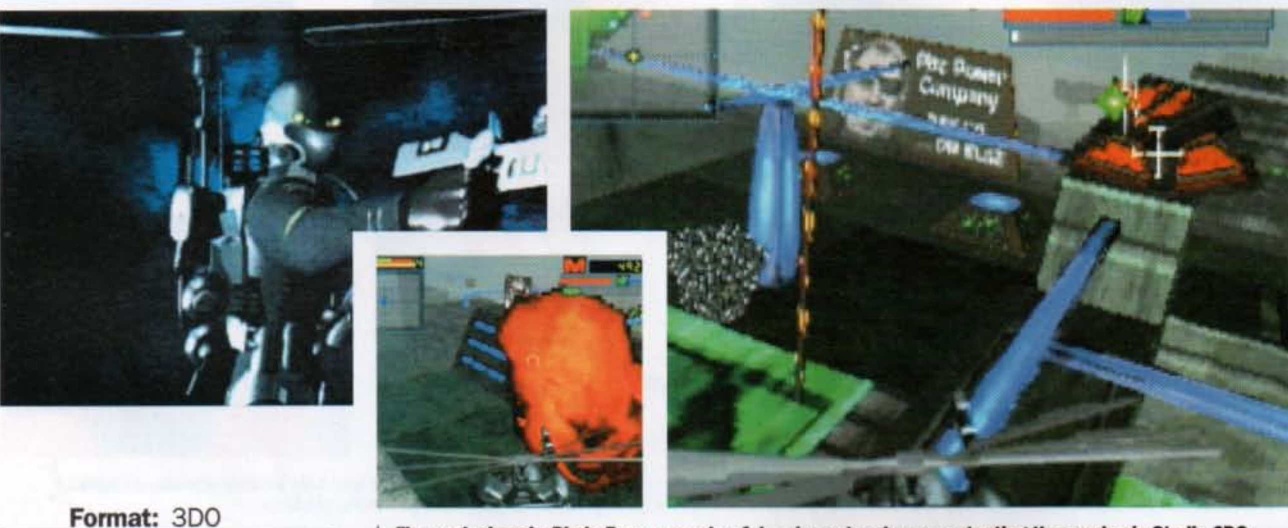







***Loaded* has a cast of six to choose from. *Vox* (right) is the token blonde bimbo with little weaponry**

Blade Force



The explosions in *Blade Force* are colourful and spectacular, accentuating the emphasis Studio 3DO have placed on the game's graphic engine. This is one of the most visually impressive 3DO titles to date

Format:	3DO
Publisher:	Studio 3DO
Developer:	In-house
Price:	£45
Release:	Out now

Two years on from the launch of the first 3DO console and Trip Hawkins' beleaguered global standard still lacks a decent selection of quality software. Games like *Return Fire* and *Need For Speed* are good, but they failed to capture the public's imagination like *Tekken*, *Virtua Fighter* and *Ridge Racer* on the Saturn and PlayStation. With M2 on the horizon, the release of *Blade Force*, perhaps coupled later with *Killing Time*, could be seen as a last ditch attempt to revive interest in the basic 3DO.

In comparison with other recent 3DO titles, *Blade Force* will definitely be the one to attract attention to the machine. Much has been made of the 3D graphics engine and to a certain extent, it deserves the positive attention it has received. Movement over the city scape is incredibly smooth and, considering the amount of detail present on the screen, impressively swift as well. Swooping in between towers, under support beams and over barriers looks and feels very graceful indeed, with a real feeling of interaction with the complex 3D world.

There are a few glitches, especially when the helipak gets close to an object, or, worse, hits one. Most of the problems though, are with the texture maps on the city floor which warp horribly when the player gets too close. Nethertheless, the landscape retains a cool Blade Runner/Robocop look, and the mist that hangs constantly in the distance adds an eerie post-industrial haze to the environment.

A competent 3D engine does not make a game though and where *Blade Force* initially suffers is in its convoluted game environment. The scenario is a standard sci-fi dystopia tale: Meggagrid, a futuristic metropolis, is in the grips of an unstoppable crime wave perpetrated by seven eccentric crime lords. The player must don a prototype helipak and make the city safe so that decent, honest people can walk the streets again.

For a while, it's good fun to wind through the buildings, shooting at gun turrets and attempting to pick up more powerful weapons (you begin with a standard blaster, but can pick up bombs. However, there is very little else to the game. This is a shame, because the pre-rendered intro sequence hints at a chaotic, future world filled with car chases, meaty tanks and full-scale street riots. None





Statically, *Blade Force*'s intro sequence looks impressive enough. But in motion the quality is laughable





The in-game characters are adaptations of stereotypical themes, like the psychotic surgeon







The hero in *Blade Force* scours the city using a helipak – a bulky, badly-animated character which takes up a large proportion of the screen and restricts the player's vision. There is no first-person viewpoint

of this seems to have made it into the game itself. In fact, although Meggagrid is large and highly detailed, it lacks variety which makes it difficult to navigate. The map which can be accessed from pause mode is useful, but it would be good not to have to rely on it at every turn. Furthermore, any sense of environmental reality that the game graphically creates is drastically compromised by the inclusion of power-ups which litter the city. Of course this is acceptable in a shoot 'em up that pretends to be nothing else, but Blade Force has been given a detailed scenario which permeates the game. Power-ups are necessary and add diversity to a game, but surely it would have been better to include them as a believable part of the landscape. This way, the player could remain emersed in the world that the 3D engine is labouring to make real.

Once the environment has been accepted as it stands, there is an addictive game in there. Because of the limited fuel that the helipak will take and the sheer number of enemies to neutralise, there is always something that the player has to frantically find or shoot. There are also seven massive levels to complete so this is by no means the transient videogame experience that other much-heralded releases have turned out to be.

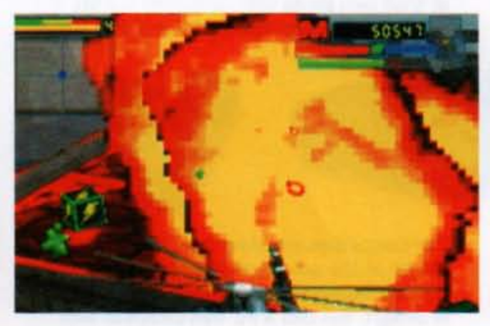
So will this game save the much-persecuted 3DO? Not by itself. Not by a long way. Graphically, despite the odd glitch, it can look beautiful in places, but the gameplay is limited. A few more air-borne enemies and maybe a sub-plot here and there would have helped. Overall, a flawed but nevertheless compelling release.



Throughout each level you are constantly reminded of your foe

Edge rating: **Seven** out of **ten**

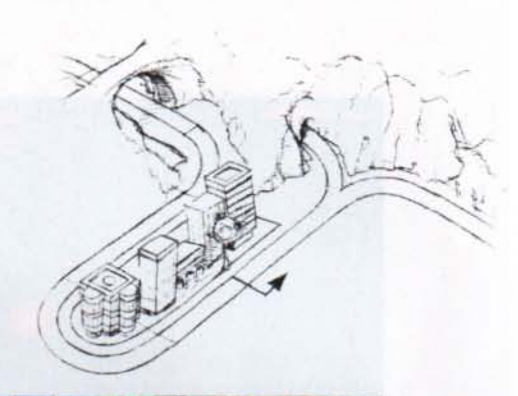






The cityscape is littered with various billboards, often related to the enemy you're seeking (left). Shrapnel bombs are amongst the most impressive special weapons, taking out several targets at once with a huge explosion (centre). The game screen is permeated by an eerie mist (right)

Screamer



Format:	PC CD-ROM
Publisher:	Virgin
Developer:	Graffiti
Price:	£29.99
Release:	November







The skid effects in *Screamer* (left) add a lot to the game's realism, although the sample often plays longer than necessary. During play, the other racers bunch together creating a wall of cars that's almost impossible to overtake, especially if you have just crashed and are losing speed (main)

Screamer is being launched into a market already saturated by racing games. Console titles such as *Ridge Racer* and *Daytona* have recently dominated, as well as several other notable racers including *Wipe Out* and *The Need For Speed*, etc. However, despite a glut of polygon-based F1 sims and the occasional sprite-driven departure such as Code Masters' *Micro Machines*, PC releases seem to have avoided direct competition by steering well clear of arcade-style racing.

Graffiti, however, are playing the consoles at their own game with *Screamer* – a 3D racing title heavily influenced by *Ridge Racer*.





The similarities are clear from just a cursory glance at the screen shots. The cars, circuits and the backgrounds are almost identical in design. But can a PC title compete with Namco's pristine arcade conversion?



The impressive 3D visuals owe a lot to other racing games of this genre, like *Need for Speed*

In terms of pre-game choices, you can choose to compete in either a single race or a whole championship, whch takes you through the six circuits in order, as long as you finish in the top three.

The game also comes with three special options – variations on the old time trial theme. The first, 'Time Attack' is a solitary race against the clock. 'Cone Carnage' is the same but every time you hit a cone you get a second added to your time limit. Finally there's 'Slalom' where you have to steer your



Some circuits leave the urban sprawl for the country. Look out for windmills and cattle ranches

car through a series of gates, again for extra time. Fun for a while, but very easy.

Screamer is undeniably intense and frenetic. On a fast Pentium with the detail on high you'll get a screen update of around 20 fps. Way short of what you'll see on the Saturn and PlayStation but more than respectable enough for a PC. Furthermore, wherever you're competing, the backgrounds are always exceptionally detailed and varied, which really adds to the feeling of involvement and emersion. The VGA graphics are, admittedly, rather blocky and details tend to be a little confusing while in the distance, but having such a rich variety of scenery makes up for it.

During the game, there a number of interesting features that constantly compete against the race for your attention. You can insert a music CD and select a track and volume mid-race, and



the city scapes that surround each circuit are full of activity – planes fly by and helicopters hover above the track before ascending out of sight. It's all very reminiscent of *Ridge Racer* and none of it affects the quality of the gameplay directly, but it's good to see a PC title dealing with such background complexity without noticeable slow-down.

Unfortunately though, there are several areas where *Screamer* fails to impress. Keyboard-users will be frustrated by the car's unreliable handling. When turning is tight, the response time can be sluggish. This problem can be resolved with a joystick, but there are still times when the car just doesn't respond as quickly as needed.



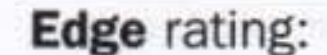


Use the on-screen map to anticipate sharp bends and to view the position of your opponents

Annoyingly, the other cars cruise round the tracks as if on rails – they don't seem to decelerate at all when approaching hair-pin corners and you rarely ever see them fail, unless you push them into the barriers yourself. Your competitors also travel around in a tight bunch, moving in formation. When you brake or crash all the cars pass you, rather than just three or four.

Another drawback is your car's interaction with obstacles. Sometimes just touching a barrier flips the car upside down and the mass of opponents zoom past.

Ultimately, *Screamer* is a perfectly respectable racing game. What it loses in the car's erratic handling and the behaviour patterns of the other drivers, it (partially) makes up for with the speed at which the game runs and the sheer luxury of detail that surrounds you as you drive. But let's not forget – the PC is an expensive piece of equipment and anyone whose prepared to invest around two grand in a high spec machine deserves the highest standard of software. As respectable as this game is, it still doesn't compare with the likes of *Ridge Racer* and *Daytona USA*. Perhaps we're at the point where saying that a title is 'good for a PC game' is not good enough... E



Edge rating: **Seven** out of **ten**

Replay







After each race you can watch a replay: top, overtaking at the start. Middle: the camera pans in front of the car. Bottom: taking a tight bend

Wing Arms

Format:	Saturn
Publisher:	Sega
Developer:	In-house
Price:	¥5800 (£40)
Release:	Out now (Jap)






Top: strafing an aircraft carrier. Top middle: chasing the enemy through a canyon. Bottom: attacking a rig




***Wing Arms* features some nice graphical touches – planes leave a trail of smoke when damaged, and bullets splash through the ocean. But it's not enough to make the game stand out**

It looks as though the desperate software showdown between Sega and Sony, that has so far pitted *Virtua Fighter* against *Tekken* and *Daytona* against *Ridge Racer*, is carrying on into a third installment. Just weeks after the release of Namco's mediocre *Ace Combat* – a 3D arcade-style flight sim with a choice of planes to fly and a series of missions to complete, we have *Wing Arms* – a 3D arcade-style flight sim with a choice of planes to fly and a series of missions to complete.

Wing Arms betrays its arcade leanings almost immediately. For a start, It is impossible to crash – instead you simply lose energy on collision. Consequently, the game has an aerial pinball feel that propeller-heads will hate. The flight sim genre is further bastardised by the inclusion of a small red arrow which indicates where your next enemy is, neatly eradicating any last vestige of reality the game might have preserved.

Even if you accept this purely as a 3D shoot 'em up, it's still annoying and unenjoyable. Although the missions look very different, tactically they're identical: follow the red arrow and shoot.

On a more positive note, *Wing Arms* moves at quite an impressive rate and you get a real feeling of speed as you zoom over the landscape. The graphics are, however, let down by the poor quality of some of the texture mapping and the fact that the explosions, clouds and landscapes just don't look that special. You expect more from a state of the art £400 console.

Wing Arms does provide a few visceral thrills and if you don't mind the inanity of the missions there's certainly some longevity to be discovered. However, this is basically a 16bit game with a few graphical enhancements here and there.

For similar reasons that relegated Namco's *Ace Combat* to a five out of ten last month, *Wing Arms* misses the mark.




The cockpit view (bottom) is best for targeting enemies, but seriously restricts your view

Edge rating: **Five** out of **ten**

J-League Prime Goal EX

Format:	PlayStation
Publisher:	Namco
Developer:	In-house
Price:	¥5800 (£40)
Release:	Out now (Jap)





Occasionally, the computer ignores closer players to give you control of a player who is nowhere near the ball



***Prime goal EX* combines bitmapped sprites (the players) with textured polygons (the pitch and stadium) to great effect. However, close-ups of the players can be pixelated as the sprite engine expands the image**

If you caught **Edge**'s football special in issue 24, you'll know that soccer games are undergoing a renaissance in Japan where the sport itself is becoming ever more popular. Consequently, in the space of a few weeks, the PlayStation has two competing football sims: Konami's *Goal Storm* (aka *J-League Winning Eleven*) and now Namco's *J-League Prime Goal Ex.*

The obvious difference between the two is that, unlike Konami, Namco have stayed with sprites rather than employing polygon-based graphics for the players. This doesn't compromise the game at all, however. Flashy visuals and hundreds of camera angles are rarely accurate indicators of playability, especially in football games. It is gratifying to note that both of these releases have restricted the camera views to just three.

Like all good sports sims, *Prime Goal* is reasonably straightforward to get into, but carries a depth that only becomes obvious with continued play. The basic control method is fairly easy to master, and there are plenty of more complex moves to discover as you go along. Importantly, your team mates seem to be intelligent and intuitive enough to allow more tactical play to be possible. This is by no means a 'run solo down the length of the pitch and then score' football sim.

Uncharacteristically for a Japanese simulation, often economical in their use of the game's more complex rules, the off-side regulation is included in *Prime Goal.* This adds a commendable element of realism to the game that is lacking in other titles.

There are minor problems, though. The player with the ball seems to move just a bit too fast, makeing it difficult to catch up with him and tackle from behind. The game also exhibits a curious feature, obviously included in an effort to enhance the gameplay: with some tackles, the camera cuts to a close up view of the two protagonists so that the players can plan their moves with more precision. Although this is an interesting idea, it doesn't really work – football is a fluid sport which is not assisted by any sudden



***Prime Goal EX* features computer-contolled goalkeepers capable of dazzling saves. As a result, nil - nil draws are a common occurrence**









Although the game is sprite-based, there are still plenty of different angles from which to view the action. The 'tackling' sequence (middle) does little but get in the way of the gameplay

off-putting cuts to a different view right in the middle of the action.

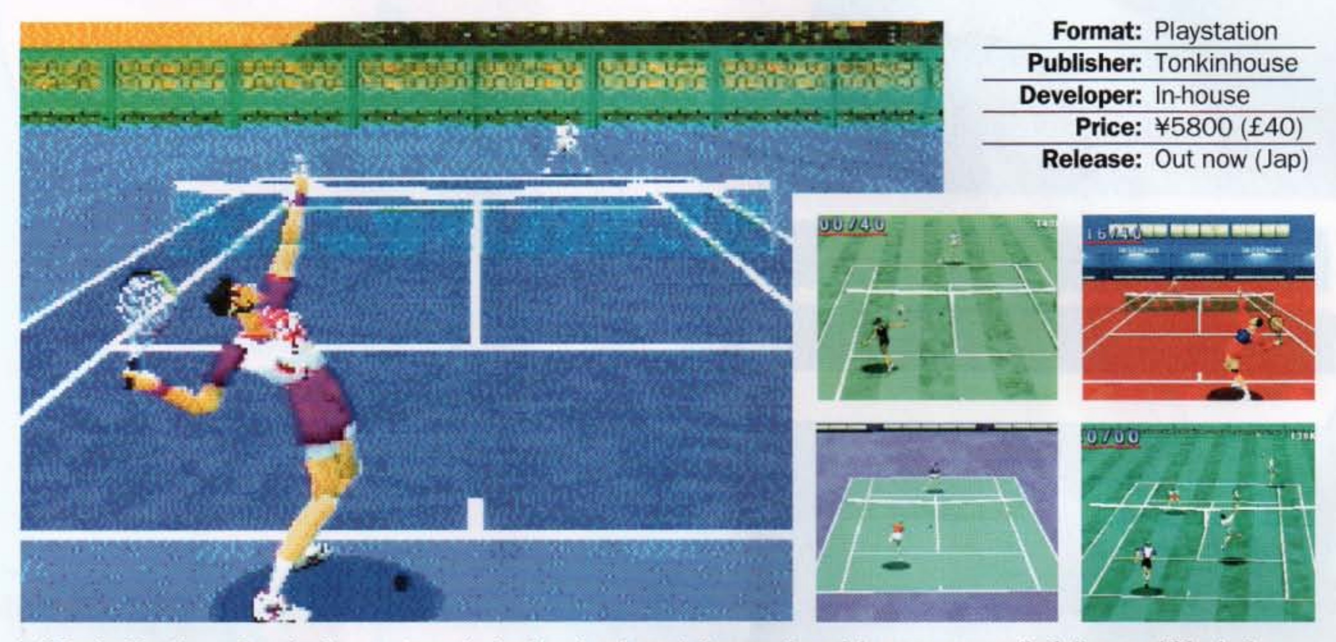
In terms of peripheral features, there are plenty of pre-game choices. Single and two player games are both possible, and there's a complex selection of tournament and league options. Unfortunately, though, the music that plays throughout is appalling and the droning commentator sounds like a cheesy American game show host.

Ultimately, this is a proficient football game with lots of detail and a sound grasp of the rudiments of the game. A few experiments fail, but at least Namco have tried new tricks instead of mindlessly duplicating the features of previous footy sims.

Edge rating: **Seven** out of **ten**

V Tennis

Format:	Playstation
Publisher:	Tonkinhouse
Developer:	In-house
Price:	¥5800 (£40)
Release:	Out now (Jap)



***V Tennis* offers four surfaces to play on – grass, clay, hard court, and carpet. However, the variety seems more aesthetic than an addition to the gameplay – the different courts have a minimal effect on ball bounce and speed. Doubles mode provides plenty of action and intense rallies (above)**

Tonkinhouse's first foray into the world of tennis sims, *Super Tennis*, is widely regarded as one of the best and most playable game of the genre. Their latest release, *V Tennis*, is a polygon-based successor to that seminal SNES title.

V Tennis is undoubtedly an entertaining sports sim. There's an abundance of shots to choose from (some of them incredibly dramatic) and the collision detection is loose enough to allow for sustained rallies without players having to worry about absolutely spot-on accuracy.

However, the 3D engine, exploiting the PlayStation's hardware, is actually the game's downfall. Too often the player swipes only to discover the ball is actually overhead, or further down the court. The polygon engine simply fails where sprites would succeed. This flaw is further enhanced by the different views available.

Tennis games in the past have been continually haunted by the difficult camera angle. The standard 'Wimbledon' view (from above and behind the near player) is usually adopted, but this makes things difficult for the player furthest from the camera. Although *V Tennis* offers a vast selection of angles from which to view the game, many of the choices are variations on this standard view.

Consequently, the far player is often little more than a collection of pixels in the distance, making it impossible to serve or return with as much precision as the foreground player. If sprites were used, this problem could be avoided.

It's doubtful whether this is the best tennis game that the PlayStation will have to offer, but it's a good start. All the right ingredients are there: a large variety of shots, surfaces and players, and, importantly, playability.

Perhaps the next developer to produce a tennis game should abandon the fashion for offering dozens of views in favour of two or three that actually work.

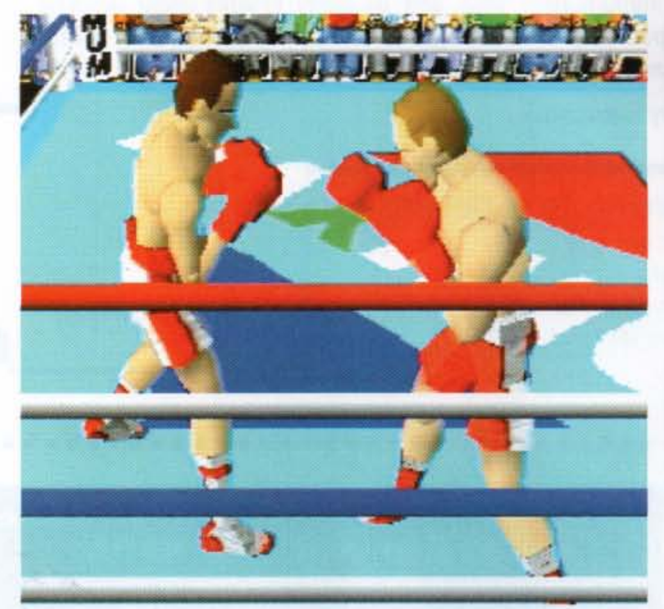
Edge rating: **Seven** out of **ten**





Rather than miss a passing shot, the characters dive, lurch and roll (top)

Boxer's Road





Format:	PlayStation
Publisher:	New
Developer:	In-house
Price:	¥5800 (£40)
Release:	Out now (Jap)





The rendered characters in *Boxer's Road* look realistic enough, but their staccato actions just don't come up to scratch. Punches flail in mid-air, or swipe 'through' the opponent. Taunting is a fun aspect (above)

Instead of competing in the same arcade style as most other fighting games, *Boxer's Road* has adopted a simulation feel. Consequently, before you even begin to fight, you must complete several days worth of training, dieting and sparring – all of which need to be specifically geared toward beating each individual opponent. The level of detail involved here is incredible: every aspect of the boxer's life seems to be under the player's control and there's an immense array of statistics to analyse and evaluate.

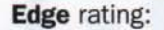
However, detail does not necessarily relate to entertainment, and *Boxer's Road* proves to be a curiously ambiguous experience. If you're heavily into strategy games, you'll find it provides a satisfying managerial scenario. But a significant amount of Japanese text does scupper its accessibility for most westerners.

The fighting section of the game is reasonably attractive with an interesting collection of camera angles (including the option to view the action from between your fighter's legs). However, the fighters' actions are horribly slow and the hi-res polygons that make up their bodies jolt and flicker with every move. At times it's difficult to tell whether a blow has hit the target, and the collision detection is so poor you can often punch right through your opponent's body.

The idea of combining the two genres is interesting, but both seem to have suffered a loss of quality in the process, the drawn out management sections failing to gel with the actual fights. Perhaps it's due to the different demands that each of the contrasting sections requires from the player. If you're looking for a good punch up, you don't want to have to complete half an hour's management before you can get in the ring. At the same time, if you want to spend hours plotting whether or not your fighter should eat carrots or go for the steak, you don't want to be interrupted by long action sequences.

Any title that seeks to combine two such opposing videogame genres needs to be very special, something that *Boxer's Road* just isn't...

Edge rating: **Five** out of **ten**







Top: 'Pants' is one of the many pointless views that are selectable

Hang up your triple combos and energy bar and journey back to a land where honour and discipline dictated the rules of hand-to-hand combat

Way of the Exploding Fist





The Spectrum version looks terrible now, but at the time these graphics were considered a breakthrough

Format:	Commodore 64 Spectrum, Amstrad
Publisher:	Melbourne House
Developer:	In-house
Price:	£9.95
Players:	Two
Released:	1985

Hard to believe from the amateurish Spectrum screen shots shown here, but *Way of the Exploding Fist* was considered revolutionary when the now defunct Melbourne House released it a decade ago. Exploiting the game style established by arcade beat 'em up, *Karate Champ*, *Fist* was the first two-player fighting game available on any home format. Its large, comparitively smooth sprites were highly impressive at the time.

Despite its age, *Fist* actually contained many of the features associated with the more advanced beat 'em ups of today. For example, you could fight against a friend or a series of computer-controlled opponents and there were a variety of attack and defensive moves that could be accessed through a combination of joystick movements and firebutton presses. There was even a selection of 'attractive' backgrounds to draw your attention away from what was basically a 2D experience. Sounds familiar, doesn't it? Indeed, not only does *Fist* exhibit many of the attributes of modern beat 'em ups, it also shares one of the genres greatest flaws: the two player game was great fun, but the one player version was unchallenging, unentertaining and repetitive.

Of course, the beat 'em up has gone through a rewarding process of extension and improvement since *Fist* helped to lay down the blue prints. Energy bars, individual fighter characteristics, special moves and combo's have all since been added to spice up the fighting experience – we even have a third dimension to brawl in, courtesy of Takara's outlandish *Toshinden*.

It's obvious what the beat 'em up has gained since *Fist*, but what has been lost? To be honest, not an awful lot. *Fist* did have some rather eccentric features which can't go unmentioned. There was a kind of sub-game section in the one player mode where, after defeating your third opponent, you had to stand at one side of the screen and defend yourself against a bull that charged toward you from the other side. The only way to do this was to kneel down and punch it in the face, knocking the unfortunate beast unconcious. Regrettably, but perhaps understandably, this section did not make it into the beat 'em up library of compulsory features.

Inevitably, *Way of the Exploding Fist* looks hoplessly dated in this era of texture-mapped polygons and million colour pallettes, but like with any great game, the masterpieces of today rest upon the foundations of yesteryear. So if you want to know where *Street Fighter II*, *Mortal Kombat* or basically any Neo Geo title evolved from, start looking here... **E**





When *Fist* emerged, the concept of energy bars and combination moves were too advanced for the processors and designers of the day. Instead, simple attacks accumulated hits against your opponent. More aggressive moves were rewarded with a higher hit count

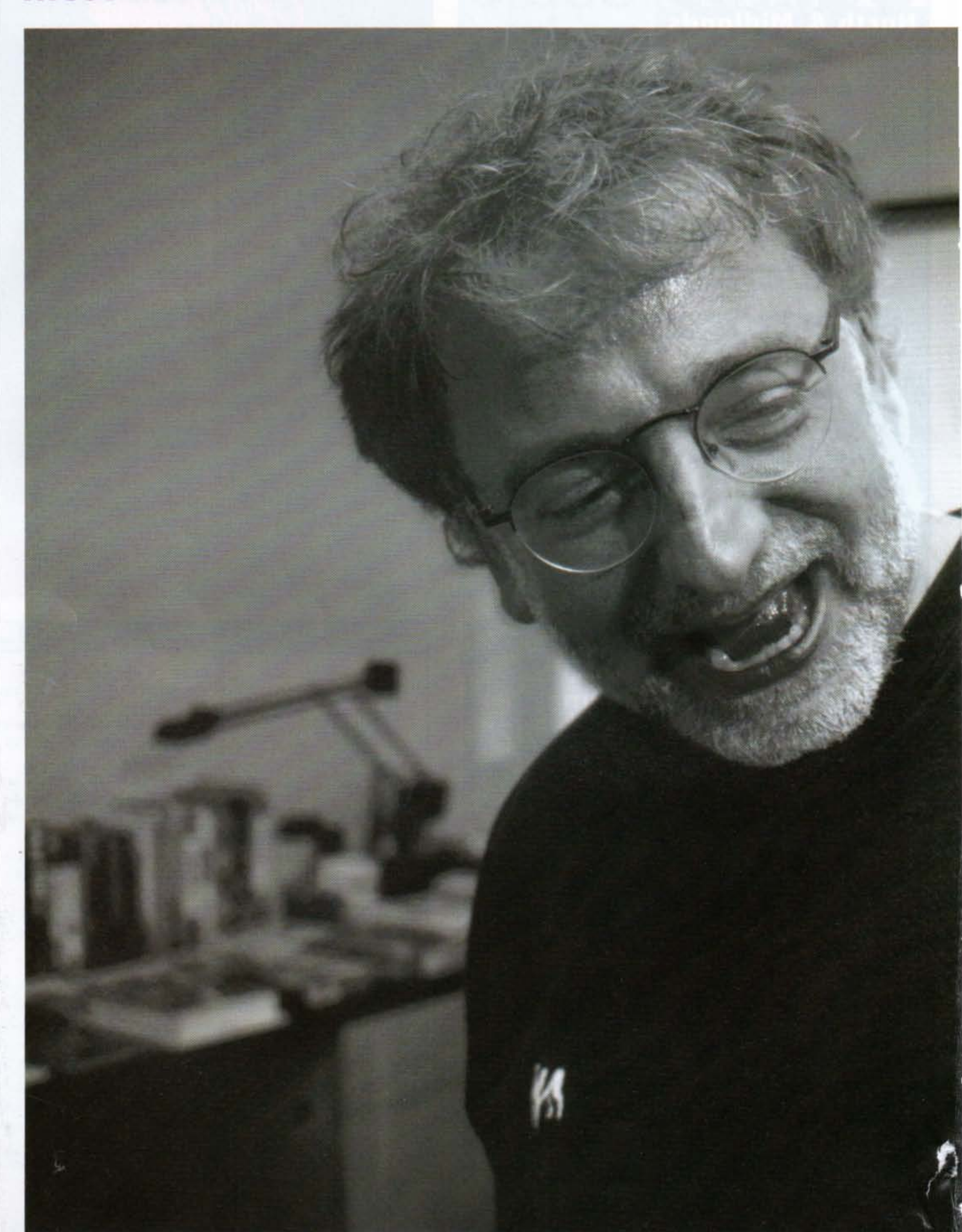


***Fist* chose karate as the basis for its graphics and play. The 'special move' was a roundhouse**





...and who could forget those wonderfully oriental C64 tunes?



An audience with...

Tom Zito

Digital Pictures is the battle-scarred pioneer of FMV games. Even though savaged by reviewers, shunned by hard-core gamers, and at the hub of 1994's US violence uproar with *Night Trap*, the company has stuck to its guns. It now claims its latest game, *Maximum Surge*, uses FMV in a new way. **Edge** spoke to Tom Zito, president of Digital Pictures...

Continued next page

The industry buzz word, 'interactive movie' is a standard to which most developers strive but few achieve. But as the majority of game houses start on their first FMV (full-motion video) projects, Digital Pictures has been working with video footage for five years.

Night Trap, the company's most notorious game to date, was created back in 1987. Digital Pictures have more than 20 FMV titles incorporating real video footage into interactive entertainment. *Sewer Shark*, *Corpse Killer*, and *Slam City* have blazed a trail that others are now just beginning to follow.

Unfortunately the actual games have never been very good. The typical reaction to FMV-based games is one of beautiful visuals with severely handicapped gameplay. Are these flaws due to limitations in technology, bad design, or an unavoidable consequence of 'interactive video' being a contradiction in terms?

These criticisms could now be redundant, because Digital Pictures has evolved the FMV genre. *Maximum Surge*, its latest game, blends video-sourced visuals with computer graphics to create a new style of game. It is to *Night Trap* what human beings are to chimpanzees.

Edge queried Tom Zito, president of Digital Pictures about FMV's pros and cons, and whether the FMV games of the bad old days are just some terrible form of videogame adolescence that we've almost grown out of.



Edge FMV has a terrible reputation, right?

TZ Right. But we've done some really interesting focus groups with gamers. Tell somebody you've got a really great FMV videogame to play and they say 'So what? I don't want to see it. Full-motion video stinks.' But if you instead simply show them a good product like *Supreme Warrior* [one of Digital Pictures' earlier games], interestingly enough they say, 'This is an interesting video game,' and, 'The graphics are awesome!' That's what they talk about – the graphics. 'It's better than *Doom*, because they're real people.'

Edge Is the real-life look the single biggest advantage of using FMV?

TZ We think of the camera as a sourcing device for in-game graphics. Could graphics be done in other ways? Sure. But probably not as effectively. If you look at *Maximum Surge*, does the experience of playing that game change because you find yourself in a battle with Yasmine Bleeth [the game's lead character, and star of TV's Baywatch]? I think it does. Of course, it still needs to be a good game.

If you look at *Quarterback Attack* [Digital Pictures' forthcoming football game], there's no way, in my opinion, that even the best computer graphics or the best polygon-rendering capabilities could do the same job of really simulating what it feels like to be down on a pitch with eleven 300lb men who want to kill you.

Edge But FMV games are notorious for the lack of player control. And a football game with no control would be dreadful.

TZ There's an FMV football game that came out from one of our competitors called *Quarterback Challenge*. You were the coach, you decided what play to run, and then just sat back and watched it. Now that's a crappy FMV game.

We ask ourselves what kind of experience we deliver to a player that he couldn't have without film. The answer is *Quarterback Attack*.

Edge And you believe that video offers a sense of realism that computer graphics never can?

TZ We put people in worlds they would otherwise never experience. In *Supreme Warrior* you get a chance to go up against 12 of the best *real* martial artists in the world. To me, that's a much more interesting place to be than watching myself represented on a flat screen, flailing away at a cartoon.

Sure, it's great to watch the characters in *Virtua Fighter 2*, but you'll never experience the fear for your life that you find in *Supreme Warrior* when one of the bodyguards is about to pummel your face.

Edge But even playing an FMV game, you know it's not real. You still have to muster a significant suspension of disbelief to get over the fact that you're just looking at a TV set in the comfort of your own home.

If you can make the jump in imagination big enough to get over that, surely you can get into the characters in Virtua Fighter 2?

TZ When you're watching a cartoon or animated character, there are certain emotions and unavoidable human reactions that you leave at home. Sure, you have all



the pride of watching your character pummel an enemy into the ground, but there are certain human, gut-reactions that can only be triggered by seeing another human. Real people produce real reactions. And that's what we're after.

For example, I personally, could never really care enough about Princess Zelda to spend 40 hours battling through the forest in order to rescue her.

Edge Don't graphics essentially become invisible once you've 'got into' a game? Aren't they merely a visual metaphor for the battle of reflexes and strategy between

the player and the guy who created the game's AI (artificial intelligence)?

TZ I believe that film is always new and always stunning. There are visuals you can deliver using film that you could never do in a computer graphics game. You can show things that you will be shocked and surprised by. That's what I love about film, the director gives you an experience.

Edge But when you're playing a game you don't really notice the resolution of the enemy. You simply realise that there's an enemy there and you have to kill it.

TZ So what do you think makes *Dark Forces* a better game than *Doom*?

Edge It's not, but from a conceptual point of view, the fact that the game takes place in the *Star Wars* universe, familiar to us all.

TZ Absolutely. And in my opinion, the best thing about *Dark Forces* is all the little things they do to cheat you into believing that you are inside a *Star Wars* movie. That's where the emotional resonance of the game comes from. It's the simplest things they do which I think are brilliantly effective, like having a guy who sounds just like a Storm Trooper in *Star Wars* saying, 'You. Leave this area immediately!' The credits scroll like on the movies, the music's there – they continually remind you that you are in the *Star Wars* universe. And this adds a lot to the game.

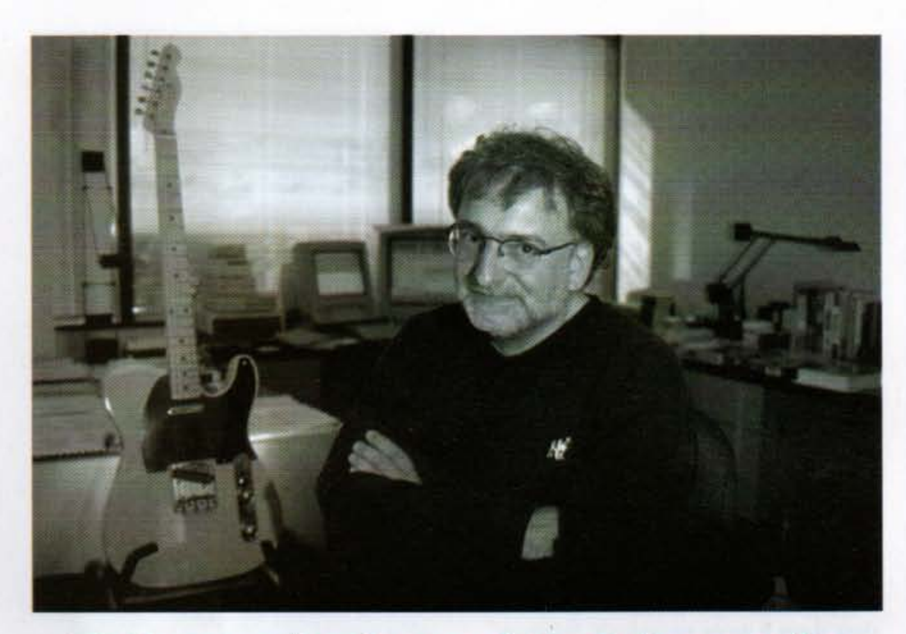
At Digital Pictures we're doing a similar thing with our games – offering believable worlds. Because we use video, we're better at it than even LucasArts.



Edge So how do you explain the fact that games like *Pong*, *PacMan*, and *Asteroids* – games with the most basic of graphics – were such big hits?

TZ How many people this year went out and bought Activision's Atari 6-pack of these old games for the PC? Not many. Sure, the games are terrific: *Pitfall*, *Missile Command*, *River Raid* – but no one wants to play them now. Back then, when they were hits, they were the only games around.

Edge Books don't have fancy graphics, yet they are usually a lot more immersive and compelling than movies of a book...



Tell somebody you've got a really great FMV videogame to play and they say 'So what?'

TZ Not always. One of my favourite books was the *French Lieutenant's Woman*. John Fowles fought for years against anyone making a movie of it, but eventually one was made by Pinter. I think the movie communicated better what Fowles was trying to accomplish in the book. I admit that this is the exception. Other examples would be *Apocalypse Now* or *Jaws*.

Edge One of the biggest problems with FMV is showing and moving video about the screen takes up a lot of in-game time. If you're going to use video, you have to sacrifice some measure of playability because the player is simply turning on or off different video clips.

TZ When developing *Maximum Surge*, we sat down with the brief of giving people a good game to play. Then we backed up and asked, 'Where can we steal interactivity to immerse people in a world so real they enjoy being in here more than in *Doom*?'

Edge So how does 'stealing interactivity' translate to gameplay?

TZ In *Maximum Surge*, there is a sequence in which you have to charge down corridors, shooting bad guys, hiding behind barriers, and dodging bullets. We have 'stolen interactivity' to the extent that you're restricted to movements of four foot increments. In *Doom*, however, you could take steps of just a few millimetres.

How much of a sacrifice have we taken in the game design to do that? I think we know that pragmatically, it's not a whole lot.

Edge 'Stealing Interactivity' is a crucial concept here. The easiest and most accepted way of doing so is a technique often used in graphic adventures. For example, your character is in a room and you want him to walk over to a window and open it. In this instance, it's perfectly OK for the player to just click on the window and have the character walk over to the window by himself. In this instance you can 'steal interactivity' and cut to some impressive graphics.

But *Maximum Surge* isn't a graphic adventure, it's an action game. Surely, in an action game, stealing interactivity is perilously dangerous?

TZ We're sacrificing something in order to give you something else. So what if the next camera step forward is four feet? Instead of giving you a camera step of two feet, I'm giving you another target to kill.

And you can kill that somebody with a degree of payoff. You see a real person. Which you never can see even in *Doom*.

Edge But to create a true feeling of immersion into the game the world's look is only half the battle – how it feels to move around is of equal importance.

If a player tries to take a two-foot step, or tries to attack the bad guys from behind, and realises that he can't – because you have 'stolen' that level of interactivity –

Continued next page

Continued

then the illusion of being in a real world is ruined. The feeling of immersion is shattered instantaneously.

TZ If this game begged in your mind the question, 'What does the enemy look like from behind?' and you could never see, then sure, it would suck. But we've designed it so you have new enemies to deal with before you think of that.

Edge When you talk of limiting the degree of interaction to what is only 'useful and interesting,' that's really a reality forced by the power limitations of the machine. You couldn't provide as much interaction as a game like *Doom* in an FMV-based game, so to say that you 'choose' not to is perhaps a little bold.

TZ It's a combination of choice and technical limitation. But as it is right now, I think there is more gameplay in *Maximum Surge* than in *Doom*.

Edge By providing both graphics and playability, there has to be some sort of trade off. You can have a great-looking game in which every image looks like a photo, or a very simple game over which the player has ultimate playability. A computer can only do so much work.

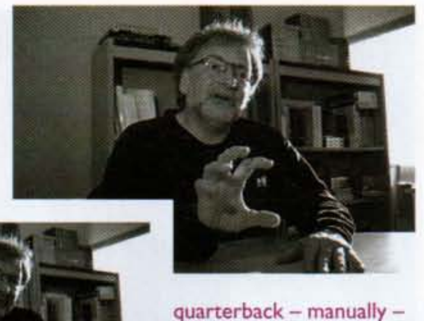
In providing both great graphics and smooth play, there is some sort of trade off between the two. How do you decide which to choose over the other?

TZ You base your choice of 'how much graphics, how much interaction' on game design choice and experience. For example, in *Quarterback Attack*, we offer an experience that cannot be matched by any other product on the market.

Sure, in our game you can't do something like turning around and running the other way down the field like you could in, say, *Madden*. You are confined to some preset options. But who would want to run the wrong way down the field? No true quarterback would do that. I think the trade off is a conceptual, hypothetical issue as opposed to any enhancement to the experience of playing the game.

Instead, what we offer is the feeling that you're actually down on a field with 350lb guys, trying to throw a pass with a sense of realism. The only basic difference between our FMV-based game and one like *Madden* is that in the other games you can do things that you would never do in a real game – and you never fear for your life.

Edge But in a CG [computer graphics] world like *Madden*, by the time you've picked your formation, picked your play, picked your receiver, manoeuvred your



quarterback – manually – into the pocket, dodged a tackle or two, and then finally thrown the ball, there's an infinite number of variations. There's a real chance that every play is unique and that no one has seen exactly the same play twice. Isn't this, therefore, is more 'real'.

TZ If all those plays on Madden look different, then we have very opposing definitions of 'different.' To me, Madden looks like a TV screen full of little green ants. So I say, 'Look, that ant is a millimetre over to the right this time.' Big deal.

Edge Instead of simply having a game screen full of video, *Maximum Surge* looks

Trap a good game? I don't know. I thought so, but a lot of people didn't.

We can also build on things we've done in the past. For example, in *Ground Zero Texas* we learned how to blow the living bejesus out of an android. We can now create a game where you can blow the living bejesus out of many androids in a less restrictive way than before.

Edge Do you acknowledge that you're racing against technology? Won't the processing power of future home consoles eventually produce rendered, on-the-fly visuals that equal the resolution of video-sourced or FMV graphics?

TZ Sure it will. But the rendering technology to make an on-the-fly computer graphics world with graphics anywhere near as realistic as video footage is probably ten years away from the home. For a rendered image at a sensible price for the home, that gives you the kind of nuance and subtlety provided by molecules in photographic films, is way off.

Edge So will you stay attached to video?

TZ Yes. What we try to do with video is to create an environment where you get caught up in what you're doing, an

There are visuals you can deliver using film that you could never do in a computer graphics game

more like a traditional videogame, but with video replacing computer graphics.

TZ The look is very distinctive. We've taken all the targets from the game and sourced them with real people – real video. So you have real Hollywood costumes with guys in alien suits – unlike anything an artist or renderer will ever produce.

Maximum Surge is really the first game in which we used the camera as a tool rather than a recording device. Just as if you were to create *Doom* you'd go to an SGI workstation and create all the sections as computer graphics, in *Maximum Surge* we have taken a video camera and done the same thing. We then assemble an image that looks real but, in fact, isn't.

Edge So why the change of direction from 'traditional' FMV-based games?

TZ Partially because the technology now allows us to do this. We couldn't do it, for example, on the Sega CD, the platform on which we started.

We've also learned how to make better and better games – and making good games has always been the goal. Was *Night*

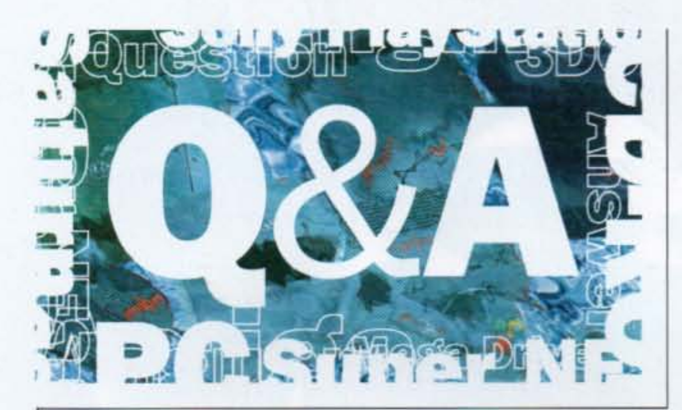
environment in which you feel like what you're doing makes a difference.

For me, it's a lot easier to feel like I'm making a difference if a real person is actually talking to me in a context that makes sense given what I've just done. As opposed to… you know, I couldn't give a shit about rescuing princess toad stool. That doesn't have any meaning to me.

Edge So Digital Pictures' games have evolved. From *Night Trap* to *Maximum Surge*, gradually you have managed to do more and more with your FMV raw material. Are the days of the 'old FMV' games now over?

TZ I've got to say I hope so, yes. EDGE





Send your **questions** to Q&A, **Edge**, 30 Monmouth Street, Bath, Avon BA1 2BW

Q **1.** Having read your 3DO story in **Edge** 21 I think the Sanyo Try machine looks the best. However, will Sanyo release an M2 add-on? And are there any future 3DO hardware licencees?
2. Are Sony and Sega planning 'next-next gen' consoles to compete with the U64 and M2?
3. When will M2 be released?
4. What coin-op and software houses will be producing for M2?
5. Also, I've read that Sega has signed a deal with The 3DO Company for the use of their M2 technology in the arcades. Is this true? If so, could we be seeing current and future Sega smashes on the 3DO M2?

Mohammed Yusof, Malaysia

A **1.** It's thought that Sanyo are committed to releasing an M2 add-on, although the company has not made any public announcement. There are no other 3DO hardware licencees that **Edge** has heard of.
2. Of course, although it's unlikely you'll see them arrive in Japan until at least 1997/8.
3. No date has been set. The 3DO Company is trying to amass a catalogue of worthy software before it commits itself to a launch. Expect an announcement to be made soon, though, and it's possible that Matsushita et al will want to roll out their M2 hardware close to U64's launch.
4. Time Warner, Acclaim and (possibly) Capcom have signed up to use M2 technology in the arcades. Software licencees include Interplay, Universal Interactive Studios, Silent Software, Spectrum Holobyte, Williams, Origin, Silicon Dreams and Crystal Dynamics.
5. The involvement of Sega is pure rumour but the delays that Sega has endured with the development of its Model 3 arcade board may have led the company to taking an interest. Sega is also thought to be working with several companies including Lockheed Martin and nVidia with regard to developing future technology for a consumer platform to succeed the Saturn in a few years time.

Q **1.** Will *Alien Trilogy* be coming out on the Jaguar?
2. What Electronic Arts games are rumoured to be coming out on the Jag?
3. Surely the Jag could handle an adequate version of *Daytona USA*? Sam Tramiel thinks it is 'about the same as a Saturn' in power terms.
4. Finally, could you do a follow-up or a fill-in on the Atari story? You did well, but missed a lot.

Thomas Wilkinston, Stoke-on-Trent



Thomas Wilkinson thinks the Jaguar could handle an adequate version of *Daytona*...

A **1.** No, Acclaim have no plans to release software for Atari's machine.
2. Bullfrog's *Theme Park* and *Synidicate* were published by Ocean, but the company has no plans for any Jaguar development. It's possible that some more titles may be licenced, though, in the near future.
3. Sam Tramiel would think that, wouldn't he? There's certainly no evidence in the current range of Jaguar software that Atari's machine is as powerful as the Saturn. For one thing it's doubtful that the machine will be able to process as much geometry – it simply doesn't have the computing power to match the Saturn's twin SH-2s.
As for texture mapping, this is where Sega's machine has some dedicated assistance, and therefore it's unlikely that the Jaguar would be able to deliver a convincing version of *Daytona*.
4. There's not much happening in the Atari camp at the moment but **Edge** will be on the case as soon as details surface on Jaguar 2. As far as another retrospective feature is concerned, there are no immediate plans, although Edge does have plans for some retro hardware features that will undoudtedly include Atari's consoles and computers.

...but software so-far released would indicate otherwise

Q Last June I left school having passed my GCSEs. I would like to work on a video games console like yours.
1. What should I do to get a job as a staff writer on **Edge** or one of your sister mags?
2. Should I write a couple of reviews and send them in with a CV and covering letter explaining my interest?

Andrew Martynski, Croydon, Surrey

A **1. & 2.** It makes sense to contribute reviews, letters or features to a fanzine, or even try and get some printed in games mags. And yes, it makes sense to draft several reviews of games to submit with a CV. A degree is not essential although, obviously, any academic qualifications are advantageous.

Q In letters (**Edge** 24) you mention that as newer PAL consoles don't have their game speeds linked to the video display rate, there will be a samller drop in performance compared with, say, the SNES and MD. You then say that for a full screen display, 200 extra lines of graphics are needed.
Surely once the games really *do* begin to push their respective consoles to the limit this will in effect lead to the same 17% fall-off in speed. A PAL picture requires more pixels than an NTSC one, resulting in the graphics processors needing that little bit of extra time in order to produce a full display. If this is true it would seem as though we in Europe will continue to suffer in respect to our Japanese and American counterparts until a global TV format is agreed upon.

O. Shevlin Cologne

A Most developers are making the PAL versions of their games virtually full screen. The amount of power needed to make PAL versions almost as good as their NTSC counterparts is proportional to the screen and game speed – if the game happens to 'push' the machine further, that doesn't mean there will be less power left to make the PAL version as close to its NTSC counterpart as possible. **E**

Q and A

You can depend on Edge to cut through the technobabble and give you straight answers. You can write to us at Q&A, Edge, 30 Monmouth Street, Bath, Avon BA1 2BW. Alternatively, fax us on 01225 338236, or e-mail us at edge@futurenet.co.uk.

Edge regrets that it can't answer questions personally, by phone, post or e-mail.

next month



If it wasn't for all the hype, would the world have gone crazy over Batman, the Internet, or Windows 95? Next month **Edge** uncovers the marketing strategies that control your lives – how Sony and Sega bestow street-cred and 'must-have' desirability upon their gameboxes, the stunts employed to grab your attention and the amount of cash fuelling European marketing agendas.

Plus: are videogames destroying your mind? **Edge** reveals the hidden truths behind the media's favourite pastime – scaremongering.

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